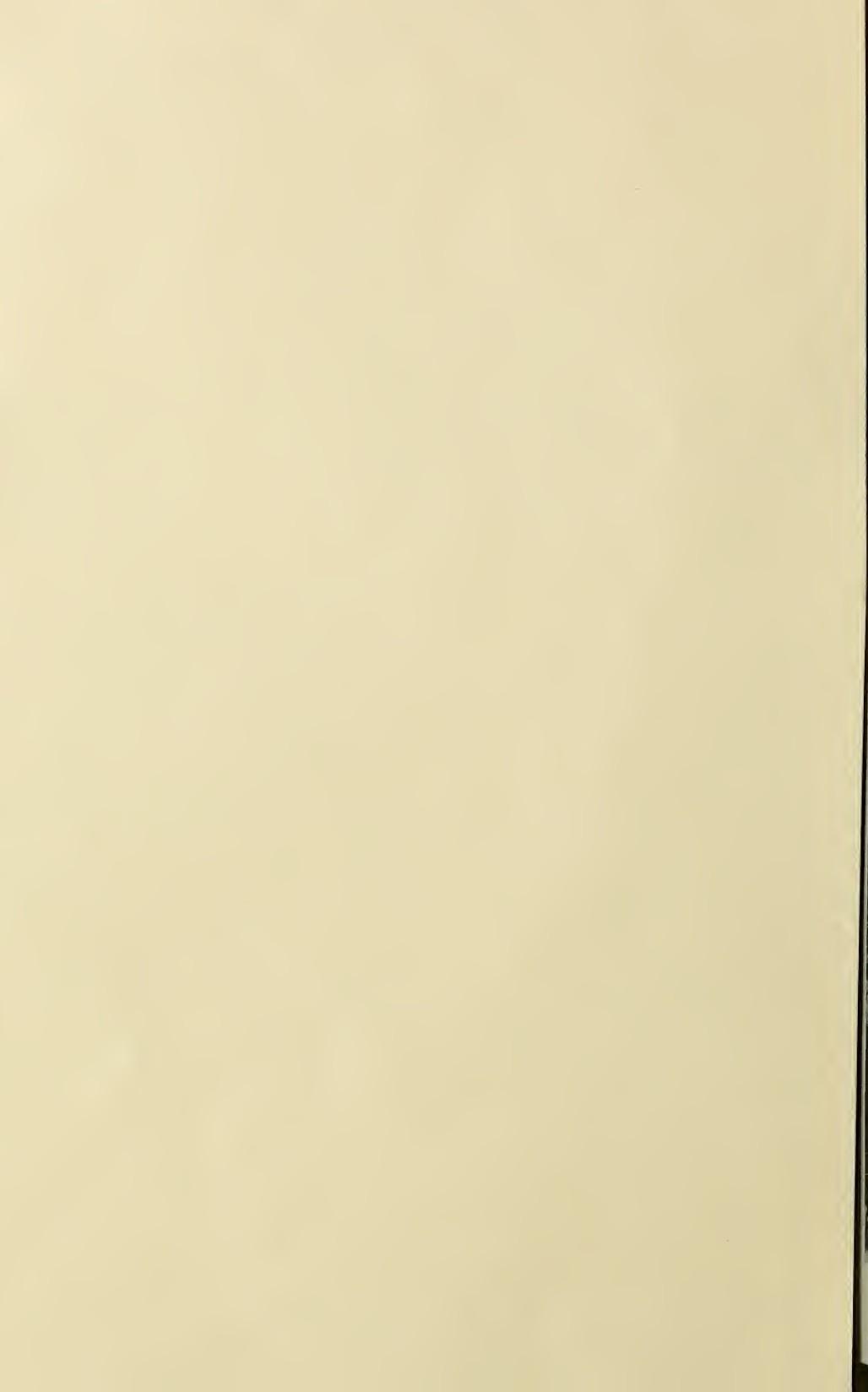


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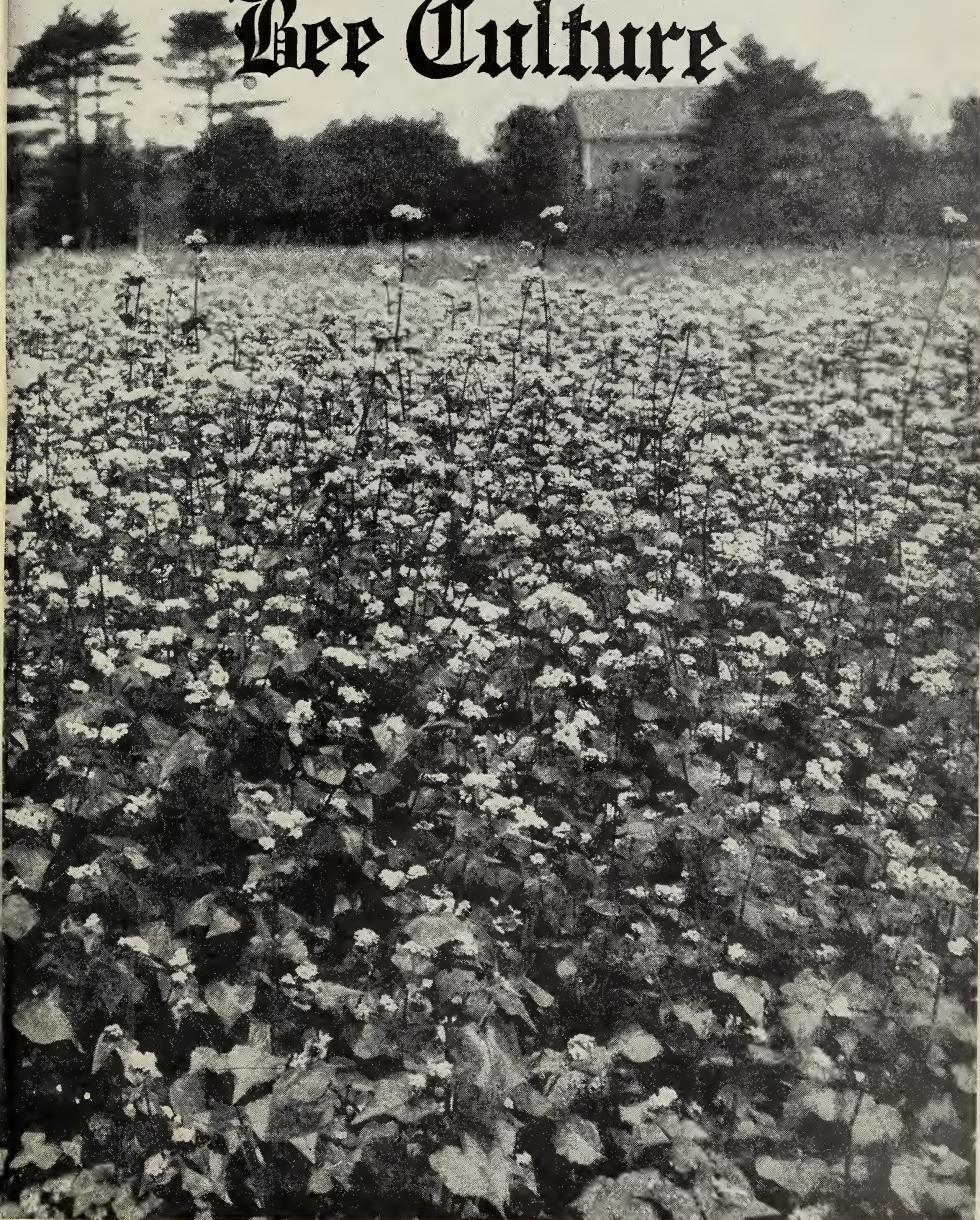
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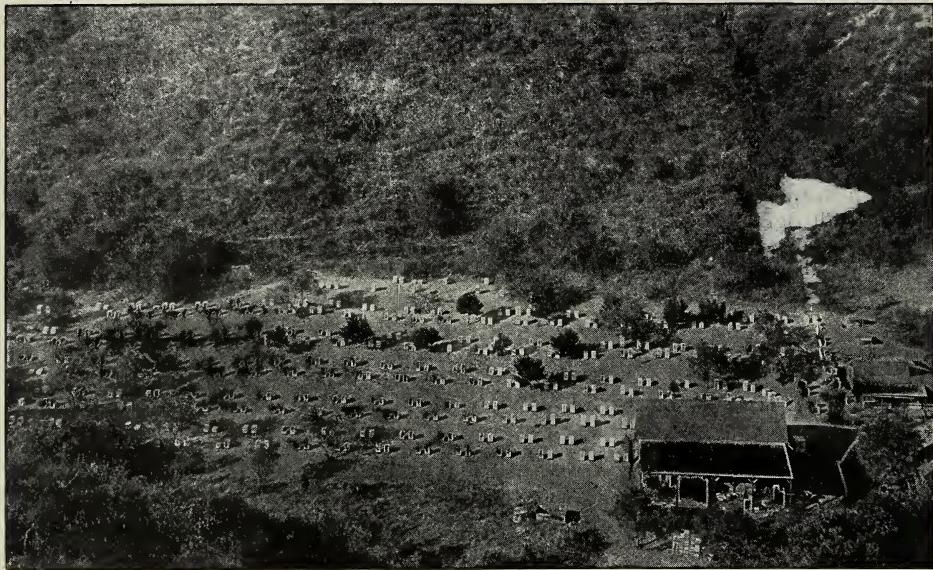
GIFT
SEP 28 1915



Gleanings *in* Bee Culture



This is Pacific Coast Year



The eyes of the nation are turned toward the empire of the western seaboard with its two expositions and its unparalleled opportunities for travel.

Similarly, the beekeepers of the West, producers of an important part of its wealth, are turning to the two branches of The A. I. Root Company for their supplies.

Californians and producers in other Pacific Coast states who are in the market for supplies are asked to write for catalogs and prices.

Full line of Root goods are carried at both offices. Do not forget those power extractors. Order your cases and cans early.

While enjoying the splendors of the Panama-California exposition at San Diego this year, remember to inspect The A. I. Root Company's exhibit in the Varied Industries Building. Our concession stands at the right of the east entrance where you can't miss it. It's interesting and comprehensive. See demonstrations of the new friction-drive power extractors. We have another exhibit in the Palace of Food Products at the Panama-Pacific exposition, San Francisco.

The A. I. Root Company

58 Sutter St., San Francisco

942 East Second St., Los Angeles

Gleanings in Bee Culture

Published by The A. I. Root Co., Medina, Ohio

A. I. ROOT, Editor Home Department
H. H. ROOT, Managing Editor

E. R. ROOT, Editor

J. T. CALVERT, Business Manager
A. L. BOYDEN, Advertising Manager

Entered at the Postoffice, Medina, Ohio, as second-class matter.

VOL. XLIII.

SEPTEMBER 15, 1915

NO. 18

EDITORIALS

FOR several years we worked eight-frame supers on ten-frame hive-bodies the same as shown on page 761 of this issue. The scheme is all right; but it is not so easy to use a ten-frame super on an eight-frame hive, although it can be done.

BEGINNERS, in locating their hives, should be careful where they place them. Sometimes a colony may be set in position on a city lot where it might cause a great deal of annoyance to the owner and to neighbors on either side. See page 762. The entrances of the hives should be so placed that the flight of the bees will not cross the walk or pathway of people going to and from the house and other buildings.

Bees and Squashes

THE attention of the reader is particularly directed to the picture on page 758 of the eight tons of squashes from five-sixths of an acre. While it cannot be proven positively that the bees helped to bring about that big result, the fact that they visited the blossoms in such numbers is rather significant.

The Booster

THROUGH an oversight the advent of the new paper entitled *The Booster* was not noticed by us when it made its modest bow to the public in June. It is edited by George W. Williams, Redkey, Ind., formerly secretary of the National Beekeepers' Association.

Mr. Williams has long believed that the consumption of honey might be very materially increased provided it were properly advertised by the beekeepers themselves. In a paper read before the National convention in Denver he outlined several things that the producers could do to boost the sale of honey. So thoroughly convinced was he that his ideas were correct he began the publication of a paper entitled *The Booster*.

It is not his purpose, he explains, to cover the general field of bee culture, but to devote his attention almost entirely to providing a "better market and insure better prices." The price of the paper is 25 cents a year.

Phillips' New Book

WE have just received a copy of a book entitled "Beekeeping," by Dr. E. F. Phillips. We have known for some time that this work was in course of preparation; and a glance at a few pages makes us feel that it is going to fill an important part in our bee literature, especially along scientific lines. We have not had time to review it carefully, but will give it an extended review in a later issue. The price of the book is \$2.00 postpaid. It contains 450 pages.

Our Cover Picture

THE very fine picture of buckwheat shown on our cover was intended for the Sept. 1st issue, as it shows the field described by Mrs. Howard, whose article appears on page 715. Owing to an unavoidable delay at the engraver's, however, the plate did not reach us until too late, and we held it, therefore, for this number.

A field of buckwheat in its prime is beautiful. In a locality where it is grown extensively, the land on every side has the appearance of being covered with snow.

The engraving on page 716 gives a good idea of the detail of the blossom and leaves.

The Ohio Field Meet, Again

ON page 760 we show a photograph of the Ohio field-day meet held in Delphos August 4. For particulars see page 653 of our issue for Aug. 15th. This was one of the most successful field days that the State Beekeepers' Association has ever held; and the fact that so large a number came out on such short notice, without any preliminary notices in the bee-journals, shows that in-

terest in bees in Ohio, especially the northwest part of it, is considerably above the normal. The bees were still gathering honey from the clovers at the time, and the locality was exceptionally good for that kind of field day. It is doubtless true that other field meets will be held in the vicinity.

A Harem of Queens

A HAREM of queens, as spoken of by O. A. Bromfield, page 765, is not an uncommon occurrence with after-swarms. In fact, these little swarms usually have a plurality of queens; but it is an uncommon experience to have several virgin queens living together in harmony among the same bees. When they do this, there is possibly a sort of "understanding" that more swarms will issue, taking with them the surplusage of queens. But such excessive swarming is not a profitable condition in the beeyard, and it is here that the apiarist should step in and stop proceedings.

The Net-weight Law a Blessing and not a Curse

WILLIAM VOLLMER, in this issue, says he is in favor of the net-weight law as it stands, even in reference to comb honey. While the wrapping around hams weighs from 3 to 4 ounces to 10 lbs. of meat, the section around comb honey as he says is one ounce to every ten or more ounces. Relatively there is a big difference. We can agree with our correspondent that the net-weight law is all right as it is. All we need to do is to adjust ourselves to it. While it may impose a hardship at first, it will necessarily result in a higher quality of comb honey, better filling, and a more uniform product.

Conclusive Proof that Bees are Killed by Spraying

J. E. CRANE, in his department in this issue, furnishes some rather conclusive proof showing that bees are actually killed by the use of arsenate of lead so commonly used in spraying fruit-trees. The bees were gathered up by the handful and sent to Dr. E. F. Phillips, of the Department of Agriculture, and an analysis shows an abundance of arsenate of lead in the dead bees.

There have been many reports of bees dying as the result of spraying; but only two or three that give such conclusive evidence as this. The fact that the bees are killed sometimes, at least, makes the spraying of trees while in bloom unsafe at any

time. It should, therefore, be condemned not only by beekeepers, but by experiment stations and fruit-growers alike.

Clover Prospects Next Season

THE weather maps show that the rain-almost-every-day proposition in the clover belt is giving way to sunshine and hot weather. Our bees have started gathering honey from the asters, goldenrod, white, alsike, and red clovers. Mr. J. E. Crane elsewhere suggests that this peculiar season has not been duplicated before since 1865 in the days of Father Quinby.

If, perchance, the rains should continue through the fall, there will be an abundance of clover next spring. As there has not been a larger fall of rain in inches this year than normal it is not at all likely there will be a drought next spring. If we have ordinary conditions we shall have a record-breaking clover season next year. Clover thrives when the rains are light and often.

The Spread of Blight Among Fruit-trees due to Puncturing Insects

As an addendum to our article on page 767 in this issue, on the relation of bees to blight, we may say that later investigations go to show that bees seem to try to avoid the virus of blight. It has also been discovered that there are certain puncturing insects that pierce the bark of tender shoots and limbs of trees. These wounded limbs or shoots are very susceptible to the virus of blight. Many non-puncturing insects such as ants and flies crawling over the blighted portions of a tree will carry the infection to the punctures in the young shoots. This is the reason why so many young trees and young shoots that have never borne any blossoms are so susceptible to blight.

The evidence is accumulating more and more, showing that the bees do not carry blight to the extent that was formerly supposed. Some interesting developments will be made a little later that will go to show that they are in all probability a very small factor in the spread of blight.

A National Honey Day

ELSEWHERE in this issue reference is made to the advent of a new bee paper called *The Booster*. Among other plans to "boost" the sale of honey the editor advocates setting aside a certain day in the year as "Honey day." He suggests Nov. 25 as

an appropriate time, and urges his readers and others to join with him in making Thanksgiving day also a honey day.

Our friend has started out on a big program. While we are a little skeptical about being able to accomplish very much, because the bee papers and their subscribers are only as a drop in the bucket as compared to the great public, yet if we keep at it long enough we may accomplish something. We therefore urge our subscribers to prepare for making Nov. 25 a general honey day in their respective localities. If you are interested, write to Mr. Geo. W. Williams, Redkey, Ind., or, better, secure a copy of his paper, *The Booster*.

Bees and Fruit

THE experiment of placing ripe fruit in a hive to see whether the bees can or will puncture the skins, and thus suck out the juices, as shown and described on page 766 of this issue by Mr. J. P. Lucas, has been tried over and over again, and always with the same result. They will not work through the skin of sound fruit—never have done it and never will do it. But when fruit is overripe, and the skin cracked, and when other insects or birds, or when the spots of skin-rot injure the surface of the fruit, the bees will help themselves most royally.

Just recently we had a pear-tree where the pears ripened within a few days. The skins took on a rosy hue, and this rendered them attractive to the birds. They would make a small hole where the softest part of the pear was exposed; and after a hole was made the bees would keep on sucking out the juices until the skin was a mere shell in some cases.

Fruit with broken skins or holes, made by insects or birds, independent of bees, is, of course, ruined. It would be unfit for market, even if there were no bees. The work the bees do, therefore, does not result in direct damage to the fruit-grower. If, however, the bees "started" the trouble, and then birds and insects helped themselves, the case against the bees would be very different.

Complaints of Queen Advertisers Again

REFERRING to our editorial on page 608, August 1, Mr. Kenneth Hawkins offers some further suggestions that are worthy of consideration, and we believe that reliable queen-breeders will be willing to subscribe to them. Here they are:

My dear Mr. Root:—I believe every queen-breeder's guarantee should be something definite; that he should agree to arbitrate all complaints with the

bee-journal as arbitrator if the customer was dissatisfied with the proposition made, and should not be allowed space at any price unless he would do this. You may be sure those of us who are trying to do right appreciate the stand of your journal in such matters.

Plainfield, Ill.

KENNETH HAWKINS.

We wish to offer the further suggestion that every queen-breeder agree to breed only from select stock. We have been informed that one prominent queen-breeder has been in the habit of using queen-cells from any source—natural cells, good, bad, and indifferent. If a customer could know that the breeder is furnishing him such stock he would buy of the other fellow, without question.

It might not be out of place to suggest that the queen-breeders get together and agree on a set of conditions, not only to raise first-class stock, but to stand by a guarantee and arbitration. We suggest that the guarantee cover reasonably prompt delivery or a statement explaining the delay, an offer to return money in case the customer cannot wait to replace promptly, a sworn statement that there is no bee disease in the yard, and that all queens are reared from the best stock.

A Trick of the Trade in Introducing Virgin Queens

ONE of our subscribers who has been buying some virgin queens writes as follows:

If you will pardon the suggestion, I beg to submit that we beginners should be cautioned more urgently in the matter of supplying a nucleus with a frame of eggs and unsealed brood. I lost two of my last six virgins on this account, I believe. Each nucleus had three full frames of sealed brood and some stores. I made the divisions in the dusk of the evening, because of robbers (these pests give me the nightmare); and while the A B C states very plainly the need of eggs and unsealed brood, I seem to have overlooked it on these two nuclei.

Pittsburgh, Pa., Aug. 3. GEO. W. GUTHRIE.

While our old A B C book does state the need of eggs and unsealed brood, we now believe that it is not an essential factor after all. As a general thing, unsealed brood and eggs help to put a colony in normal condition. Bees that are otherwise discouraged will seem to take on new life.

We have just been talking with our Mr. Mel Pritchard, who has raised some 20,000 queens. He is a very close observer, and he says he does not attach very much importance to the need of eggs and unsealed brood in a nucleus that is about to be supplied with a virgin queen. He has introduced thousands and thousands of them under both conditions, and he does not see much difference if any. But he does say

that the presence of *young hatching bees* does make all the difference in the world. He therefore seeks to avoid having them in a nucleus into which he is letting loose a virgin.

We asked him why they should be the cause of trouble. He did not know how to account for it unless young queens do not know the difference between a baby worker and a baby queen. He has repeatedly seen these young virgins, as soon as let loose, pounce on and sting bees just hatched, one after another.

The trouble apparently arises, not from the young bees, but, rather, from the queen. She *starts* the trouble, and it is evident that all the bees then take a hand in the fracas, with the result that she loses out as a matter of course.

Why Some Should Advertise at County Fairs

Now is the time for beekeepers to advertise their honey business at local fairs. Live-bee demonstrations and exhibits will draw a big crowd, sell a large amount of honey, and pave the way for future sales. It is the kind of advertising that pays well; and the honey-producer who does not take advantage of it is losing money.

We should hardly expect, however, that an old veteran like Dr. Miller, at the age of 84 years, would give live-bee demonstrations at his county fair. The fact is, he is able to sell his honey, usually, before it is off the hive, at a price that is highly satisfactory, for he sometimes has more than one buyer in prospect—not because he goes after that buyer, but because the buyers come to him. The quality of his honey, his careful grading, and his prominence as a bee-writer, create a good demand for his product. But not all have this reputation; and it will, therefore, be necessary for them to create a demand by letting their local consumers know that they have honey for sale.

A Rose by any other Name

WHATEVER may be the facts in this incident, it points to a fundamental principle in the scientific method, the necessity for exactness in names. A householder cut down four handsome basswood-trees which had shaded his lawn for a generation. He had heard of the linden-tree, its value for shade, for nectar, and for timber, and in his desire to secure some of these he destroyed the basswoods. A nursery set out the lindens according to his order. He was naturally somewhat surprised when, four or

five years later, he discovered that basswood and linden are one.

How often much confusion arises in the discussion of honey-plants, all of which could be avoided by the use of the Latin names, as a contributor has suggested in a former issue. The willow-herb (*Epilobium angustifolium*) is sometimes known as the fireweed. But the evening primrose (*Oenothera biennis*) is also called the willow-herb. Similarly the wild lettuce (*Lactuca canadensis*) sometimes called fireweed. Plenty of room for confusion here.

There are two dog-fennels, one of which is an aster (*Aster ericoides*), and the other *Anthemis cotula*. A variety of sneezeweed (*Helenium autumnale*) and the common field daisy (*Chrysanthemum leucanthemum*) are each sometimes called the oxeye.

While a rose by any other name would smell as sweet, it is likely to cause confusion by any other name than the Latin one. These names are in the language common to science. Latin is to botany and other natural sciences what Italian is to music.

We endeavor to add the Latin names of plants in articles in GLEANINGS where there is a possibility of confusion, but when these are not supplied by contributors we are often at a loss for them, simply because the common name is strange to us, or because there may be several closely allied plants, and we cannot tell which is meant. When a writer attempts to deal with a scientific subject such as a honey-plant, he should use the language of science, the Latin terminology.

The Question of Fall Uniting; When Should it be Done?

IT is the usual practice to unite just before putting bees into their final winter quarters; that is, a little before freezing weather sets in; but it has been observed over and over again that a late-united colony is never quite as normal as a regular colony that has sufficient strength without the infusion of other bees. Several united nuclei, if put together late in the fall, look like a good colony at the time of putting together; but very often these combinations die out before spring. For some reason they do not seem to be able to get together as one working unit, like a regular colony.

Every fall we have been in the habit of uniting our queen-rearing nuclei, and this uniting has generally taken place pretty late, because we desired to keep the queens for late orders, even though we might lose the bees that were of much less value than the queen.

Years ago Mr. Doolittle used to recommend uniting in the brood form in late summer. Such a colony will build up normally, and be the equal of any other in the yard, and, what is of considerable importance, there will be no returning of bees to the old stand.

Uniting can be profitably undertaken provided the bees are put together during warm weather. If they raise brood after this, such a united colony will be, to all intents and purposes, the equal of any other.

But why has the general practice of uniting been deferred so late? Queen-breeders do it to save their queens. Others do it because, after cool or cold weather sets in, bees will stay better where they are put, especially if the following week or ten days be cool enough so the bees cannot fly.

We are now working on the scheme of uniting the weak colonies from two different yards. During the early part of September, in our locality, it is not practicable for us to unite the bees in one yard, on account of the bees returning; but when several half-strength colonies of one yard are united to an equal number at another yard the union is accomplished without any bees deserting and returning to their old stands. This early uniting results in a perfectly normal colony later on. But the objection, of course, to uniting bees from two different yards is the expense of hauling; but if one has to go to an outyard anyway, he can just as well take along a load of bees, and put them with other weak stocks in a yard where he expects to work.

What is a Trademark?

SOME centuries ago a medieval paper-maker conceived the idea of distinguishing his product from that of others by pressing a die into the paper and making the fabric thinner and therefore translucent in the form of the design. Manufacturers of other wares adopted the idea.

The quality of merchandise is due as much to the invention of the trademark as the efficiency of machinery is due to the invention of interchangeable parts, a development hardly more than a century old. The trademark indicates the pride of the manufacturer in his product. The confidence of the buyer must follow. Great systems of business, vast selling campaigns, the whole mass of modern advertising, would not be possible without the trademark.

It is not necessary to argue the value of the trademark for honey-producers. It is

a sales necessity for large success in everything from cruisers to collar-button. You may develop a trademark that may be your greatest asset. The name Coca-Cola is worth more than five million dollars.

There are certain things one must keep in mind in selecting a trademark or trade-name. His own name cannot be protected by use of any one else of the same name in marketing the same product. There are two firms making Baker's chocolate, two manufacturing Faber's pencils, two manufacturing Waterman fountain pens.

For the same reason it is impossible to prevent any one from using the name of a town or city or any other geographical name as the designation of a product. Any other honey-producer in your locality could build his trade on what you have worked up, simply by adopting the name of the locality if you were using it already. The same is true of words which are simply descriptive of the product.

Of course a trademark is valueless if the product is mediocre. If inferior the mark had better be dropped altogether.

In the case of marks such as the government has declared protectable, it is not necessary to register them to prove priority of use, although registry, of course, makes the mark more secure. If you have adopted for your product a sunbonnet girl or an apple-blossom or a coined word which no one else has used for a product of the same class, you may rest confident that no one can use the sign to attract trade that should be yours.

Another Visit from a Norwegian Bee-keeper who Uses American Methods

ON page 668 of our issue for Oct. 1, 1913, we gave an account of a brief visit that we had had from Mr. Ewald Omdahl, of Drammen, Norway, a prominent manufacturer of leather goods, who has quite an extensive bee business as a side line. Mr. Ondahl has recently made another trip to this country; and while on his way from San Francisco to visit the exposition, on Sept. 2, he called again at "The Home of the Honeybee."

Mr. Omdahl says that there has been practically no honey produced in Norway this season, on account of the rain and cold weather. The conditions have been so bad, in fact, that there is practically no honey on the market.

There is much clover around Drammen —white, alsike, and red clover, the clover being the principal source of light honey. In addition to many other plants

such as are common in northern United States they have considerable heather. In commenting on the thick heather honey Mr. Omdahl says that they now have no difficulty in extracting it. A roller-like tool of German manufacture, containing a large number of sharp points, or needles, is run rapidly over the combs, the points reaching nearly to the midrib. As we understand it, this is done after uncapping. The thick waxy honey, which is almost impossible to extract under ordinary circumstances, may then be extracted with ease. Possibly some air is thereby introduced into the honey, which makes it leave the cells more easily. According to our Norwegian friend, even honey which has started to granulate may be quickly thrown out when this tool is used.

As reported in the former editorial, Mr. Omdahl uses both Carniolan and Italian queens. He has been buying rather more Italians of late, securing them direct from an extensive breeder in northern Italy. This is a very easy way to get imported Italian stock, as the queens reach him in just three days' time.

He told of a peculiar instance which occurred recently. He received a shipment of thirty queens, twenty-five of which were leather-colored; and the other five, goldens. All were fine-looking queens, but for some reason or other the eggs of the five golden queens would not hatch—all of the other queens being normal in every way. Occasionally we run across a queen whose eggs do not hatch, but have merely supposed such a queen to be structurally deficient in some way. We could not offer any reason why the eggs of all five queens should have failed to hatch. We suggested that the fact that the queens were goldens could hardly have anything to do with the matter; but Mr. Omdahl says that the general opinion of the beekeepers in his vicinity who use both the golden and leather-colored Italians imported direct from Italy is that the leather-colored are far superior.

Since the war broke out, European mail, of course, has been extremely slow. Under normal conditions it takes only three or four days for mail between Norway and Italy. Under present conditions all mail is "censored," with a resulting delay of a week or more. Importations of queens, therefore, are out of the question.

Mr. Omdahl believes more and more in providing an abundance of sugar syrup in the fall. He says there is no danger in giving too much, for extra combs of stores in the spring always come handy for weak colonies, and, of course, they are much to be

preferred over spring feeding. The fall is certainly the time to feed in the spring.

Successful Shipments of Bees in Pound Packages from Alabama to Canada

MR. W. D. ACHORD, of Fitzpatrick, Ala., called on us recently. Mr. Achord is a prominent queen-breeder and extensive bee-keeper, owning from 500 to 600 colonies which he operates for bees, queens, and honey. Early this spring he sent something like 1000 lbs. of bees by express in various shipments to beekeepers in Canada, with a loss not exceeding two per cent. He began to deliver queens by April 1. Shortly after this his bees were swarming out, and, of course, his hives were boiling over with bees. There is not much honey in sight, and he can, therefore, fill orders for pound packages very easily. In fact, he finds it an advantage to take off the surplusage of bees; and after having done this they are in splendid condition by June 1 to catch the heaviest flow of honey for the year. In this way Mr. Achord is enabled to do quite an extensive business in bees, queens, and honey. He is a good business man, and his stock is first-class. The sale of bees in pound packages is just so much velvet.

One of his customers having experienced a severe winter loss said that his pounds of bees did so well that he did not know but that it would be better for him to brimstone his bees in the fall, save the stores, and buy bees in pound packages from Mr. Achord. He says that a pound of fresh bees from the South is more than equivalent to any colony that has been wintered over whose bees are more or less old or worn out by the rigors of winter. Some of these pound packages have paid for themselves several times over in honey.

The Tri-state Field Meet at Hamilton, Illinois, Sept. 7 and 8

WE have just returned from attending a successful field-day meet, at Hamilton, Ill., and have only just room enough to squeeze in a brief notice. The representatives of some six or seven states were present, including such men as Dr. L. H. Pammel, botanist, of the Iowa State Agricultural College, Ames, Ia.; Frank C. Pellett, bee-inspector for Iowa; N. E. France, inspector for Wisconsin; A. L. Kildow, inspector for Illinois; Frank Coverdale, of sweet-clover fame, Iowa; Dr. E. F. Phillips, of the Department of Agriculture, Washington; and, of course, the Dadants.

A fuller report of this field meet will be given in our next issue.

Dr. C. C. Miller

STRAY STRAWS

Marengo, Ill.



P. C. CHADWICK gives a plan for transferring, page 616, that sounds excellent, and I'm not sure I ever heard of it before. But he doesn't say what he does with the old combs that in three weeks would be filled with honey.

A. I. Root, I'm interested in your work with hand cultivator, p. 599. I'm having lots of fun cultivating my roses and gladioli with a wheel-hoe. And to think I've lived till now without ever knowing how much easier it was than a common hoe!

FOOLED again! When the cold and wet kept bees indoors I thought when bright days came again they might do a rushing business, since clover bloom was still abundant. Didn't work that way; and although clover is still booming, 1915 may as well be set down as a rather poor year. [The same in our locality. The clovers were out in bloom the 15th of August, but they do not yield honey now, the 23d.—Ed.]

I WANT to say amen to J. L. Byer's note of warning to beginners, p. 704, about the danger of letting bees run short on stores early in the season. If it goes to the point of having the bees destroy brood, the ruinous results are far beyond what one would estimate. I had one case this year, and the colony was many weeks recovering. In fact, it was practically ruined as a honey-storer. It would have paid well to feed at a dollar a pound.

P. C. CHADWICK thinks it a bad thing to have in spring two to four brood and pollen each side, p. 525. I've often wondered about that. But I haven't dared to interfere with it, for that's the regular thing; and when the bees make a rule to do a certain way, isn't there some good reason for it? A common thing is to find pollen on the inside of a comb and young brood outside; and then in an incredibly short time the pollen disappears. May be that's the best—possibly like having dinner all on the table instead of upstairs or down cellar.

ALLEN LATHAM writes: "Foul brood has been very bad here this year, and the caging of the queen has failed in many instances. I think that will work only when new honey is coming in. All colonies are getting cured, now that the honey-flow is in progress." I suppose he means European foul brood. A flow is very helpful in treatment—even a cure in some mild cases;

but I think I've had caging a success in a dearth. [European foul brood is undoubtedly meant; for Mr. Latham is not a bee-keeper who would claim that caging would cure American foul brood. This only illustrates the importance of specifying which type of foul brood is meant. Will our correspondents please be specific?]

ONE OF the hardest things I've had to learn (I'm still learning it) is that everything about beekeeping all over the world isn't exactly the same as right here at Marengo, Ill. In a British Columbia bulletin written by our wide-awake friend F. Dundas Todd, he says British Columbia differs from almost the whole world in having a spring-building-up season *four months long*. Clover begins to bloom in May, but apparently nectar is not secreted *until June is past*. So with plans that fitted in Ontario, beekeeping was a flat failure; with different plans, fine yields are obtained. [If you traveled all over the country as much as we do, from one end to the other, from the extreme east to the extreme west, and from the extreme south to the extreme north, you would have it pounded into you pretty thoroughly that there is a very marked difference in localities, and that locality explains differences when one knows the exact conditions. Many of those who criticise the late E. W. Alexander's methods would be less inclined to do so if they knew the conditions surrounding his locality.—Ed.]

J. L. BYER, you have my hearty thanks for entering a protest, p. 617, against the thing that so constantly vexes my soul, the talking about foul brood without saying whether it's American or European. I have my opinion of any editor who will allow anything of that kind to get into print. [If you were an editor you would, perhaps, realize better than you now do the futility of trying to make every correspondent make a direct distinction between the two kinds of diseases. We admit that, as the modes of treatment are different, it is very important to know what the writer is talking about. We should appreciate it if all our old correspondents, at least, would be careful to prefix the proper adjective, "American" or "European," when they speak of foul brood.—Ed.]

GOT all kinds of foul brood now. After hovering about within 12 miles the past three or four years, American foul brood has finally concluded to pay me a visit.

Don't know what treatment I may use later; but as a starter I've adopted the carbon-disulfide-furnace treatment — carbon-disulfide for the bees, and then the furnace for bees and combs. [While we are awfully sorry for you, yet we cannot repress a feeling of satisfaction that what will be your loss will be a gain, perhaps, to the fraternity at large. We believe that beekeepers have profited greatly by your experience with European foul brood. While your plan for European will not work in all cases and in all localities and with all strains of bees, it will work in a good many cases. After all, is not this the basis of the Alexander treatment?—Ed.]

"FAMILIARITY breeds contempt." I suppose it's according to that old adage that R. F. Holtermann, p. 707, thinks American, and I think European foul brood the lesser of the two evils. With his vigorous treatment I don't believe he'll have much trouble with European foul brood. At present I don't believe I dread European foul brood any more than I dreaded wax-moth with black bees. R. F. rather belittles the damage from destroying combs; but I've found that shaking means the loss of half to the whole of the surplus for that season, while with European foul brood the caging of the queen for ten days makes little impression on the harvest. And taken in time that caging is all that's ever needed. But we'll know more about it a year from now, Bro. Holtermann. [We should like to get reports from our subscribers who have tried this ten-day caging plan of Dr. Miller's for the treatment of European foul brood. While you are about it, do not get the plan mixed up with the American disease, for it will not work.—Ed.]

MR. EDITOR, you ask, p. 701, my opinion of the Fowls plan of swarm control. Please understand that my quarrel with Miss Iona, April 15, p. 261, was not at all about the value of the Fowls plan, but because she said "putting the queenless colony right on top with nothing but the honey-board between . . . the chances are that the swarming tendency would very rapidly develop into a mania," for I had done that very thing many a time, at all stages of the swarming fever, up to sealed cells, and even after the colony had swarmed, and it always cured the fever instead of developing a mania. What's that? "Want me to stick to the point and say what I think of the Fowls plan?" Well, it's excellent. Splendid! I'm not sure about that philosophy about the young bees, but it's quite possible that there is an advantage in having those intervening empty supers; for without them

I've known the queen to sulk several days before laying, and it may be that with the Fowls plan she goes promptly to work. If no increase is desired, all that's needed is to kill cells again in 8 days. Yes, it's a good plan, and I'd give \$49.98 (marked down from \$50.00) if I could use it. But it won't do for comb honey. [The Fowls are good beekeepers; and while we will admit that they do not know as much about the production of comb honey, the difference in their experiences is probably accounted for by locality as well as by the kind of honey produced. The attention of Mr. or Miss Fowls is hereby directed to what Dr. Miller says.—Ed.]

No matter how dry a cellar or refrigerator may be, says ye editor, p. 698, the tendency to granulate is hastened materially, meaning, of course, hastened by the cold. Very true; but isn't there such a thing as honey without a tendency to granulate? At any rate, I want to register my belief that comb honey properly ripened will not granulate with cold. That belief is based on seeing honey that had been roasted in an attic through the summer remain uninjured by freezing the next winter. [Practically all honey, both comb and extracted, no matter what treatment it may have had previously, will granulate if given time enough and subjected to alternate cold and warmth. Comb honey that has stood in a warm or hot attic for six months, if well ripened at the time it was taken off, probably would not granulate for a year if exposed to continuous cold; but it will be almost sure to do so the second year, especially if the temperature rises and falls.

A very thick and well-ripened comb honey would not be injured by freezing, because the water content is very small comparatively.

But look 'e here, doctor; you do not cover the point directly as to whether comb honey or extracted honey should be kept in a cold or hot place *continuously*. We assume, of course, that you are in line with the orthodox teaching on this point, although you did not say so in our last issue, and now you are silent again. You would not recommend putting a well-ripened thick or attic-stored comb honey into a refrigerator or ice-box and *keep it there* as a matter of good practice. Would you not rather keep honey in a warm dry place, and then store it in a refrigerator, or before an open window in winter time, for a few hours before eating? This last point has never before been emphasized so far as we can remember, and perhaps our old orthodox teaching should be modified slightly.—Ed.]

MR. EDITOR, you ask, p. 657, whether I think it advisable to have "one large brood-chamber or a multiple of two or more of medium size, and tier up in order to get the necessary capacity." Too many angles to that question to handle it in a single paragraph. If Langstroth frames are used in both cases, 14 or more being used, then I'd rather tier up for comb honey, the other way giving too large surface for sections; but for extracted honey—I don't know. A question involved is: "Which would suit the queen best?" I formerly thought she would dislike to cross the wood of the top-bar and bottom-bar, and especially the space of air between; but having tried it many times I find she keeps the work going in two stories just as well as in one.

ON page 655 I say that the chief part of cleaning sections is done with No. 2 sandpaper. I've just watched Miss Wilson at work, and will now describe the work more minutely. Tops and bottoms are cleaned as I said, but No. 2½ sandpaper does as well as No. 2. For the rest of the work No. 3 is used, making better work. The sandpaper lies flat and on this she lays the section flat, and with a few motions cleans the edges, then reverses the section and cleans the other edges. Then she lays the section on one of its sides, gives it a few rubs, turns it over on its top, rubs; turns it over on the other side, rubs, and it's done. I said I didn't see much use in rubbing the top, which was already clean. She replied, "Sometimes there's a little to clean on the corners, but the chief reason for having the top down is because it's easier to roll the section over in that way than it is to pick it up and lay it down on the other side." If there's much glue on the edges, and it's pretty warm, then the knife precedes the sandpaper. By the way, since testing that knife you sent, in actual work, she says it's fine. [Apparently there are times when the knife is better than sandpaper. It would seem to us that both methods should be employed, according to the condition of the atmosphere, propolis, or the sections themselves.—ED.]

YE EDITOR asks, p. 657, what I mean by "breeding from the best." My first thought was, "What a fool question!" But after studying over it a bit, I conclude the foolishness is elsewhere, and am strongly inclined to answer, "I don't know." The best for one is not the best for another. If I kept a few bees in town just for the fun of it I'd breed for gentleness, even if I didn't get ten pounds of honey per colony. If I wanted to sell bees or queens, color would be an important matter. But if I

bred bees for the honey I could get, then the bees that stored the most pounds would be the ones to breed from. Not altogether that, either. For years I paid no attention to anything else, and I had bees that would get the honey; but I also had bees that disputed my right to be on the same 37 acres with them. So I'd rather have a little less honey with less danger from stings. But I'm not sure I'd take anything else into account. Wintering, for instance, may be ignored. The colony that gets the most honey has wintered well enough. So the "best" would be those giving most honey, provided not *too* cross. For I'm afraid Vernon Burt is right, that if you want big yields you must take some temper with them. [Thanks, you have given us just the information we desire.—ED.]

YOU say, Mr. Editor, p. 613, "If you were in an office where four or five dozen queens were lying on a desk you would hear a good deal of piping. We have heard them answer back and forth time and time again." So have I heard them piping many a time outside a hive, and, of course, outside a cell. But in answering back and forth were some of the queens *quahking*? Were they not all piping? I never heard a queen qualik, as I said, outside a cell; nor did I ever hear one pipe inside a cell. Did you? [It all depends on what we mean by piping and quahking. In your previous Straw you mentioned the fact that there are some who think they are one and the same thing. We are coming more and more to that opinion ourself. If we were to shut you up in a cracker-barrel and have you call loudly you would *quahk*. Out of the barrel you would *pipe*. If you were to be shut up in that barrel for some time your holler might be prolonged in order to attract attention because the sound would be muffled. Of course, we realize the fact that barrels and queen-cells are not quite analogous because they are made of different materials. One might make a better sounding-board than the other.]

AFTER all, doctor, have you any proof that there is any difference in the *way* the sounds are made beyond the mere matter of environment? Now, then, to answer your question, if they are made in the same way, we have heard queens pipe and quahk, both inside and outside of a cell and inside and outside of a hive. Inside of the cells the sound might properly be called quahking because it is muffled; and outside, piping; but we strongly suspect the sounds are made with precisely the same organs and in precisely the same way. If so, why draw a useless distinction?—ED.]

J. E. Crane

SIFTINGS

Middlebury, Vt.



We tried this year a small strip of foundation on the bottom of sections as recommended by Dr. Miller, but do not find such sections any better attached at the bottom than those in which we used a full sheet coming down to $\frac{1}{4}$ inch of the bottom of the section.

* * *

Passing a field of alfalfa in full bloom yesterday, Aug. 16, on my way to an out-yard, I had the curiosity to see if bees work on the flowers, and found them in goodly numbers. I presume they have not learned that alfalfa doesn't yield honey east of the Mississippi River.

* * *

That photogravure showing how bees are kept in the Blue Ridge Mountains, page 533, July 1, by J. J. Wilder, is very enlightening. How little some of us know the way many people live in other sections of the country! and we may well be grateful for the enterprise of our journalists for the knowledge we do have.

* * *

Mr. Conover's method of fastening foundation into sections would seem to make a good deal of work without corresponding advantages as given on page 585, July 15. Now, after many years' experience I believe that where honey is coming in very fast a small amount of foundation can be used with satisfaction; but where it comes slowly a full sheet of foundation is most economical.

* * *

Quinby tells us in his book that clover will sometimes continue to bloom all summer and yield honey. Such a season was 1865, as I remember. I have been looking for another for the past fifty years, and it has come at last; and now, Aug. 12, clover is yielding honey as fast as on July 1. Alsike is still as fresh as it usually is the last of June, and bees are working, when the weather will permit, as fast as at any time through the season.

* * *

In a paragraph on page 570, July 15, I referred to the certainty of bees being poisoned by the spraying of fruit-trees. Thinking it might throw some light on the question, when I found how badly they had been poisoned I gathered up a handful of dead bees in front of one hive, perhaps half a pint, and sent them to Dr. Phillips to be analyzed at the Department of Agriculture.

His report shows an abundance of arsenic found in the dead bees. Pretty conclusive proof! I have since learned who did the spraying, and that they used arsenate of lead. It remains to call the parties to account for it, and settle for damages, as the spraying was illegal.

* * *

That article on pages 574 and 575, July 15, by Chalon Fowls, is of unusual interest. Why shaken swarms should swarm out has given me a good deal of thought and study. I have not laid it so much to too many young bees as to other causes. Natural swarms often take with them almost every bee in the hive that can fly. My own failures have come largely from shaking colonies with old queens (two years or older), or by delaying the shaking until the bees were nearly or quite ready to swarm. By shaking only colonies having vigorous queens, and those as soon as we find larvæ in queen-cells, we have little trouble from their absconding. Old or inferior queens should be destroyed when they prepare to swarm, if you can find them; and after destroying queen-cells give a choice virgin queen or a queen-cell. These swarms made by shaking have proved my best workers. Shaking on to frames of foundation is often a cause of absconding, and natural swarms are no exception.

* * *

"It is a brave man that dares to stand before the king," or stand up and disagree with our friend R. F. Holtermann when he tells "how not to do and how to do." I shall not quarrel with him for thinking that the way he describes on page 490, June 15, is best for him to handle combs, and perhaps many others; but there may be some beekeepers, and myself among the number, who would find such a way decidedly irksome. I find I can work when the brood-chamber is high enough with the least weariness by standing; but if the brood-box is low I can work best by kneeling on the ground or a cushion of shavings. It is my opinion that beekeepers as well as other people are built differently. One may be tall and another short. One may have a large development of muscles in the arms; another in the shoulders, and another in the lower part of body or legs. Now let every one find out for himself how he can work easiest and most rapidly, and stick to it until it becomes second or third nature to him.

BEEKEEPING IN THE SOUTHWEST

Louis H. Scholl, New Braunfels, Texas.



A NOVEL AND PROFITABLE WAY TO SELL HONEY.

While at the recent meeting of the State Beekeepers' Association at College Station we learned of a unique way of disposing of large quantities of honey profitably. The plan was used successfully by Mr. J. H. Meeks, of Nederland, Texas. He had a large quantity of honey to sell. It was somewhat difficult for him to sell it direct to the merchants for them to sell again to their customers. They believed there would be few if any calls for honey, and consequently they were afraid to stock up with a supply.

Mr. Meeks' plan was like this: He obtained permission of the merchants to leave at each store in town a supply of honey without obligating the merchants to pay for any of it unless it was sold by them. Then he went to the newspapers and placed in the classified "want ad." columns such advertisements as, "Eat Meeks' Honey. To be had at all groceries." "Meeks' Fresh Honey. Call at your grocer's." Other similar, short, catchy advertisements were used. These were placed in nearly all the columns, scattered under the heads of "Help Wanted," "Live Stock," "Type-writer Supplies," "Poultry and Pet Stock," and almost all the other captions. The result was good, for a demand was created for this honey, and the merchants sold honey when they had believed they could not get rid of it. Mr. Meeks worked this scheme in a series of towns that could be reached by the same newspapers.

* * *

THE FOUL-BROOD WORK IN TEXAS.

Thirteen thousand dollars was appropriated by the last legislature of Texas for foul-brood eradication—a larger sum, we believe, than has ever been appropriated for this purpose at any one time. Three thousand dollars of this amount was an emergency appropriation for the rest of this fiscal year ending Sept. 1, as there had not been made any appropriation for the last two fiscal years. There was no money with which to look after the work, and consequently it became necessary to get some money with which to resume the abandoned inspection work. Five thousand dollars each year for the next two fiscal years was allowed in the regular appropriations for the State Experiment Station. This will give us sufficient money to do some effective

work. It is to be hoped that it will be spent advantageously, and efficiently applied, and that the work will result in eradicating the disease to such an extent, at least during the next two years, that there need be less fear from its ravages than now exists.

We are only hoping that those in charge of the work will give it their proper attention. We know it is quite a difficult task to take care of as large an undertaking properly, involved with so large an appropriation. With the right man at the helm it will be less difficult, and it is our fondest hope that the Texas Experiment Station will obtain a man who will be well qualified to handle ably the funds for this purpose.

It is my opinion that the beekeepers should themselves take a bigger interest in this work and in the spending of this money. It was appropriated for them and their cause, and they ought to see to it that they receive "their money's worth" out of it. As a member of the legislature myself, as well as one of the beekeepers, I feel that I understand the situation somewhat better than the average person. I should like to urge a stronger co-operation among the beekeepers of this state in foul-brood inspection and eradication work. The beekeepers can be of very material aid in more efficient work being done with the money appropriated for their cause. With the beekeepers working hand in hand with the State Entomologist at College Station, greater good may be obtained. A united effort of all concerned will mean more than a haphazard, go-lucky manner of procedure. Let us hope that every beekeeper, whether his bees are diseased or not, will take an earnest interest in this work. Get in correspondence with the State Entomologist, at the above address, who has charge of the funds and the foul-brood work of Texas. We have the chance of a lifetime to do some good work with the generous appropriation now at hand, and it is my keenest desire to see the funds well spent. I should regret to have to appear in the legislative sessions hereafter and have my colleagues, who so kindly aided us in getting the money, call my attention to the fact that the money was not well used. I am not anticipating this, and feel that the beekeepers and the State Entomologist will work for a united effort toward stamping out the dread disease that is a menace to our industry..

CONVERSATIONS WITH DOOLITTLE

At Borodino, New York.



SPREADING BROOD; PIPING QUEENS.

"Did you read what Editor Root said on page 345, May 1, about the folly of spreading brood? Again, did you read Dr. Miller, p. 435, Juné 1, on the same subject? I am surprised at what both write.

I have spread brood with good results for more than twenty years, in accord with what you told us at a National bee convention which I attended nearly a quarter of a century ago. Do you still practice spreading the brood?"

Since I began using the plan of "millions of honey at our house," as given in the "Management of Out-apiaries," I have not been as enthusiastic about spreading the brood as I was twenty-five years ago—not that a gain cannot be made by a judicious spreading of the brood, but the work and manipulation, as well as a careful diagnosis of each colony, overbalances the extra gain that can be made above the abundance-of-honey plan as hinted at by Dr. Miller.

But both Editor Root and Dr. Miller put two words in what they wrote that would make the spreading of brood a failure nine seasons out of ten; and to me it is no wonder that Dr. Miller says, "In my locality, and with my bees, brood can be spread in spring always and only at a loss." The two words are "empty comb." Empty combs put between combs of brood are no incentive toward a greater laying of the queen unless there is an abundant flow of nectar to be had from the fields, and such a flow is not the rule at the most advantageous time for spreading, which time is always from 35 to 40 days before the main honey crop will be at its best. Putting an empty comb between combs of brood at a time when the bees were living "from hand to mouth" would be like throwing a wet blanket over a lot of motherless chickens on a cold morning, resulting, as Editor Root tells us, "in almost irreparable damage to the colony should a cold spell come on." Any comb that is to be put between combs of brood should be full of honey, and that honey preferably sealed, though in the absence of honey a comb filled with good sugar sirup of the consistency of honey will work nearly as well. If the sealed honey is partially candied it will do no harm, especially if a cool spell of several days should come on. The cappings to the cells should mostly be broken by passing a knife flatwise over them before the comb is

inserted between the frames of brood. By thus spreading you will cause a great activity to come to this colony, the queen to be abundantly fed by the bees, and the necessary heat kept up during quite a spell of cool weather, while the honey not consumed in brood-rearing will be stored all about the brood, the same as would be the case with a day's flow of nectar from the fields during a time of scarcity, making quite a gain in bees at a time when such bees would work to the best advantage in the main honey harvest.

"I see that you are behind the times as to the piping of queens except when they are on the combs in the brood-chamber, p. 312, April 15. Have you ever heard queens piping in cages with bees where they were to be sent in the mails or otherwise?"

Certainly, a great many times. As the questioner was a person whom I had instructed to listen at the side of the hive for the piping of queens so that he could locate the time of day when an after-swarm could be expected (this piping matter being entirely new to him), I answered from his standpoint, not for older heads like E. R. Root, Dr. Miller, J. L. Byer, etc. Where there are only scores of these old veterans (in the commercial handling of queens) who are readers of GLEANINGS, there are hundreds who know little regarding queens only as they are inside of the hive, except that they accompany swarms which issue. When I wrote what I did I was writing from the standpoint taken by the multitudes who had kept bees for only a few years, or had from three to fifty colonies.

Again, it will be noticed that I was talking about young or *virgin* queens. Now allow me to propound a question for these "older heads" to answer. Did any of them ever hear a *virgin* queen pipe or quahk at or in any other place than the combs of the hive where there was rivalry among these queens? If they have, then I am "behind the times," as our questioner says. I have sent out scores of virgin queens in the mails, but I never yet heard any virgin queen pipe in the cage nor in any other place, except on the combs where there were rival queens in queen-cells. In my writings I have always tried to give something useful to the great mass of everyday beekeepers, and something which they could reasonably put in practice with the means they had, without going to some great expense to secure something they did not have.

GENERAL CORRESPONDENCE

DIFFERENT VIEWS OF FOUL-BROOD DON'TS

BY G. C. GREINER

In a former number of *GLEANINGS* a beekeeper from the West gives a list of "Don'ts" which he considers a safeguard against foul brood. Some of his points are all right, but others I cannot endorse without some remonstrance. The limited space of an article of this kind forbids replying in detail to the different features his 'don'ts' cover, although it would give me great pleasure to do so.

Our friend advises "burning all diseased hives unless there is a large percentage of the apiary infected." Why does he make this difference in the number of hives infected? If it is advisable or necessary to burn a few, would it not be more so when a large portion of the apiary is in the same condition? It may be the least trouble, causing the owner less work to commit his hives to the consuming flames than spending time in cleaning them up; but it is also the most wasteful. From experience I know that infected hives can be easily prepared for future use without the least danger of detrimental consequences.

A day or two after I had finished treating my last foul-broody colonies four years ago,* our foul-brood inspector called on me in his inspecting-tour; and while looking over the rows of hives with their rotten contents our discussion naturally turned to the question of what best to do with the rotten mess. Of course I had decided to burn all the contents of the hives, but felt somewhat undecided about the hives. It seemed like a pitiful waste to see the work of former years so ruthlessly annihilated, to say nothing of the material, unless it was strictly necessary. Here is where Mr. Stephen, the inspector, came to the rescue. He suggested two methods—either search the inside of the hives with a gasoline torch or thoroughly scrape and liberally paint with kerosene. I decided on the latter treatment, because the scraping alone would make them mechanically as good as new.

One evening, after all danger from flying bees had passed, I burned the frames and combs; and to make a clean sweep I moved the hives into my carpenter shop where I securely closed them up against all possible access of robbers. During the winter I did the disinfecting. After scraping every

particle of inside surface thoroughly I gave them a soaking coat of kerosene, using a large flat brush for this purpose, which made them practically as good as new. I use these very hives to-day.

LETTING BEES CLEAN OUT EXTRACTING-COMBS.

Then our western friend advises not to set out extracting-combs for robbers to clean up. It may not be strictly necessary to let bees clean out extracting-combs before storing them for winter, but it is preferable. The honey remaining in the combs after the last extracting will granulate; and when mixed with the next crop it will hasten its granulation. During the early part of the season bees will clean out this granulated honey before storing the new; but when honey comes with a rush they have not the time to do it. If our friend objects to letting bees clean extracting-combs on the ground that it is liable to spread the disease, I am inclined to think he is more scared than hurt. I have practiced the same plan for fifteen or twenty years, and see no reason why I should break off now. Of course, it must be done in the right way, and we must be sure that there is no disease in the yard.

The one-bee-passage plan, as advised by some of our most prominent beekeepers, does not engage bee nature to the best advantage. It defeats our object in more than one way. Instead of assisting our bees in the performance of a certain function we hamper them all we can. It only gives the stronger portion of the bees engaged the advantage over the weaker ones; and the latter, when driven away or crowded back, will try to enter some other hive, possibly a weak or queenless one, where their presence is not desired. Even if no vicious robbing is noticed, peaceable robbing, as we generally call it, is liable to be started. And this is not strange; for the beekeeper's own mismanagement has taught them the trick. The stinging inclination, which we always notice when bees are robbing, is caused in this way. Those bees that are crowded back are not so willing to give up. They know by scent and general disturbance that honey is being found; and, being excited and deprived of the privilege of partaking themselves, they vent their spite on anything they run across.

Besides teaching bees to fight, and fight

* We assume that our correspondent is talking about American foul brood.



The late afternoon is the best time to permit the bees to clean out extracting-combs.

at the most dangerous place, the hive-entrance, the small passage, is the cause of another very undesirable feature. It wears bees out unnecessarily. The constant rumpus at the small opening, the rolling and tumbling, the pushing and crowding to gain admittance, exhausts the last remnants of vitality of the older stock, for it is mostly that class, the field workers, that suffer in these combats. After they have forced their way in and have loaded themselves it is the same scramble to get out. At best it is a cruel treatment we inflict upon our bees. Some of our experienced beekeepers advocate this plan, and call it the proper way.

As a comparison I refer the reader to the accompanying illustration. It represents a few stacks of extracting-combs and bait-sections ready for the cleaning-out by the bees. At the proper time, which I will explain below, all the covers at the top are removed. Previous to this no bees are allowed to enter the stocks, and special attention is paid to the closing of the hive-entrances. In a very short time, after the stacks are opened, all the bees of the yard seem to be on the job. As they can go in and out uninterruptedly, there is no crowding or fighting, no stinging or wearing themselves out. Bees have free access anywhere; and from all appearance they act almost as natural and unconcerned as when gathering honey from the field during a honey-flow. There is not the least danger of being attacked when walking through the midst of them, as is frequently done when this operation is under way. It is needless to say that it does not teach them

to look for mischief at the hive-entrance which is one of the objectionable features of the one-bee-passage plan.

Selecting the proper time of opening the supers, referred to above, is the only part of the program that needs a little more explanation. About 3 o'clock in the afternoon on a warm, pleasant day, when bees are flying freely, and when there is no prospect of a chilly night to follow, is the time to give best satisfaction—first, because bees have sufficient time before nightfall to finish their job. Incredible as it may seem, I know from experience that any number of colonies, large or small, will clean out the supers they have used during the season in less than two hours if conditions are favorable. But it must be remembered that I extract direct from the hives. If honey has been removed for days or weeks before being extracted, it may take longer.

Second, in case of an absolute honey-dearth, when bees are more or less aroused, which the exposure of honey will always cause at such times, the oncoming night will quiet them again before they have time to plan another raid.

Third, being so nearly time for bees to quiet down for the night, neighboring bees are not so liable to be attracted by the exposed honey.

Some beekeepers do not favor the open exposure of honey, because the strongest colonies, that need it the least, are apt to get the biggest share. This is true. But it is too small a matter to take into consideration. All the honey bees can carry away in the short time of an hour or two would

not increase the supply of a colony to any great extent, even if arrangements were made to give one colony the exclusive cleaning-up of five or six supers. But to make this practical requires quite a little work.

If a colony is short of stores, a comb or two of capped honey added in the brood-chamber combines the least trouble with the best results.

La Salle, N. Y.

BEE-DISEASE LEGISLATION IN NEW ZEALAND

Keeping Bees in Box Hives Illegal

BY W. B. BRAY

New Zealand beekeepers from the earliest days of commercial beekeeping have adopted American methods and appliances. Mr. Isaac Hopkins was the first to recognize the possibilities of the new methods, and the credit is due to him of having shaped a good course for others to follow. To him also is due the credit for the "efficiency apiaries act" which we possess. Already it has enabled us to make considerable headway in the battle against disease.

Though the bee-journals are concerned mainly with the commercial side of bee-keeping, the readers now and again get glimpses of the go-as-you-please style of beekeeping which is generally associated with box hives. It is the farmer who keeps a few bees for his own use in box hives who is to blame for the continued spread of disease in the United States in spite of the efforts made to control it. Many of the states in the Union have an apiaries act on their statute-books, yet hardly any two acts are similar, and, in the opinion of New Zealand beekeepers, none of them are as efficient as ours which was passed in 1907.

From 1908 to 1910, as an inspector under the act, I had practical experience of its application; and I may say that provision is made for every condition likely to confront the inspector, and no one has yet driven the proverbial "coach and four" through it. Numbers of successful prosecutions have been instituted under the act, and in this respect I think our act stands alone.

The inspectors are permanently employed, there being four on the staff at present. This is much better than appointing beekeepers to do the work in their spare time. The inspector has the right to enter any place where bees are kept. In some states he can go only where disease is reported, so he has little chance of finding the source of infection. Under an amendment passed last year we expect regulations to be issued shortly to provide for compulsory annual registration of apiaries so the inspectors will have no difficulty in locating every hive.

In some of the states the inspector is hedged around with all sorts of restrictions due, I suppose, to the fact that he is not a permanent official. Our act specifies what the beekeeper must or must not do, and the inspector is there to see that the act is complied with. No compensation is paid for diseased colonies that have to be destroyed, and the inspector can use his discretion in condemning them.

But it is the clause that makes the use of the box hive illegal that has been the mainstay of the act. The box hive is the careless beekeeper's hive. The box-hive man never cares—in fact, he does not know—whether his bees are diseased or not. He is satisfied to get a little honey sometimes; but in taking it he may spread disease right and left. This class of beekeeper was all too common in New Zealand; and, while he was allowed to continue, it was hopeless to expect to control disease. He had no financial interest at stake, yet he imperiled the very existence of apiaries which cost hundreds of dollars to establish.

This clause has been firmly enforced, with the result that a good number have stopped keeping bees altogether, with no loss to themselves and to the benefit of the industry. Others transferred, but they continued their slipshod methods, thinking the frame hive was an automatic affair that required no attention. This class too generally decide to get rid of their bees when the inspector comes along and requires them to do certain work to cure the disease he may find. Then there were others who transferred and realized the advantages of frame hives. They have been only too ready to learn all they can about their bees, and are as anxious as anybody to fight foul brood. It is this class that is to-day swelling the ranks of the up-to-date beekeepers. The result now is that some districts are entirely free of foul brood, and in most of the best beekeeping areas the amount of disease is very small to what it was, and is rapidly diminishing. There are fewer beekeepers; but more and better bees and honey are



One hundred twenty-five colonies wintered almost without loss, at Sabetha, Kans. Many of these had a set of extracting combs, containing a very little honey, *under* the brood-chamber.

being produced by the ton where not even a hundred weight was formerly produced. The opposition to this great change has been infinitesimal.

It is difficult for a publication like GLEANINGS to advocate the compulsory use of frame hives without the cry of "self interest" being raised; but if the beekeep-

ers themselves study their own interests they should, at their meetings and conventions, give their approval to the principle that bees must be kept in hives which allow a thorough inspection to be made of the combs. Then with permanent inspectors on the job all the time they will get some value for the money expended on their behalf.

Wainin, N. Z.

COLONIES SUCCESSFULLY WINTERED OVER A SET OF EMPTY COMBS

BY FRANK HILL

I have a neighbor who last fall had eight colonies of bees. Last year was very dry and hot, and the honey crop was an entire failure. By my advice he fed all his colonies, but he did not feed all at once as I advised, but a quart or so at a time at intervals of four or five days. The sirup was made of granulated sugar two parts, and water one part. In making it, water was heated and the sugar stirred in after the can had been taken from the stove. The sirup was fed to the bees from a perforated can in a super, and in the latter part of September and first part of October he did not pack his bees very well, but they had a burlap cover over the frames with a good tight wood cover over that. With no more protection than this he has wintered for years; and always, before, his loss has been very small. All his bees died.

Another neighbor having had 18 colonies lost all but five. This man did not feed till very late; but his bees died the same way.

They seem to have died of dysentery as the frames and combs are daubed and are in a filthy condition.

My bees wintered splendidly, and only one colony died. At no time during the winter was there a longer time between flights than three weeks. We had two cold snaps, mercury going down to -13 once and -15 once. We had more snow than we ever had. My bees were fed in September from Miller feeders, the necessary amount being given at one time. As there was absolutely nothing coming in in the late summer and fall I also fed from outdoor feeders, for a month, thin sirup to get the queens laying to get young bees for the winter.

When the bees got strong a year ago last spring I put extracting-supers on all of them. The season was a failure, and there was not a super in the lot that had more than 4 or 5 lbs. of honey in it. As shown in the photograph I put some of these supers *under* the colonies. All the colonies



Danielson's 146 colonies in a 14 x 28 cellar, which wintered without loss.

have a four-inch tray with burlap bottom, filled with planer shavings over them. Over that I folded tar paper that comes well down the hives with the excelsior cover on top. Is it not an advantage to put a set of combs full depth under a colony of bees before the winter sets in, even if there is not a drop of honey in them? It seems to me as if they would be better protected from the cold winds, and they would not be as apt to come out on bright cold days. If there is any objection to this plan I should like to know it.

Sabetha, Kan.

[This plan has been tried before, but we do not recall any other definite report as to its value. We should suppose the entrances would have to be guarded by wire screen with mesh large enough to let the bees in and out, but small enough to keep the mice out—otherwise there would be danger that the mice would revel on the exposed combs and destroy many of them.

If any honey were left in the combs in the spring, would there not be danger of robbing?

If any of our readers have had any practical experience with the plan we should be glad to hear from them.—Ed.]

A SUCCESSFUL CONCRETE BEE-CELLAR

How a Low Temperature and Damp Atmosphere were Overcome

BY J. I. DANIELSON

I am sending you a flashlight picture of my bee-cellar that I built last October, which is 14 x 28 ft., with a building of the same dimensions. It is ventilated by a five-inch tile running 120 ft. from the cellar, in which the fresh air comes through and the damp foul air passes out through a trap-door in the floor above. But even with this ventilation the cellar has been a little damp.

I put 146 colonies in the cellar Dec. 10 and 11. There was snow on the hives which we could not sweep off, so it also went into the cellar with the bees. It soon melted, and caused some dampness.

The cellar-walls are made of cement,

which did not get thoroughly dried. There were large drops of water all over the wall and floor above.

The floor is of one-inch lumber which is not frost-proof by any means. It turned cold in a day or two, the thermometer registering 10 degrees below outside, and the temperature in the cellar was below the freezing-point. The walls and ceiling were covered with frost. I was thinking the cold weather would not last long; but it hung on for several days. The idea struck me, that sawdust would be a good thing to put on the floor to keep out the frost. So I got a load and spread it on about four inches



Polk County beekeepers' picnic, July 14, 1915, held at the apiary of N. J. Harris, Highland Park, Des Moines, Ia.

deep. That ended the frost on the ceiling, but the temperature was still too low, so I put a small stove in one corner of my cellar, letting a stovepipe through a window. This raised the temperature and dried out the cellar. The temperature then stood at 43 most of the winter. I did not use the stove after the dampness was removed.

The bees wintered in fine condition without the loss of a single colony. However, after removing them from the cellar I lost six. Three of these were queenless. Two

were robbed out, and the bees of one drifted, as it was a very windy day when I set them out.

I swept up one bushel of bees from the cellar floor. A few showed signs of dysentery. I do not think dampness is destructive to bees at a temperature of 45 degrees, with a good current of air. There was quite a bit of brood-rearing in all the colonies, so they were practically as strong when taken out as they were when put in the cellar.

Fairfield, Ia., April 23.

IOWA BEEKEEPERS' PICNIC

BY F. C. SCRANTON

There were about 65 in attendance at the picnic of the Polk County Beekeepers' Association.

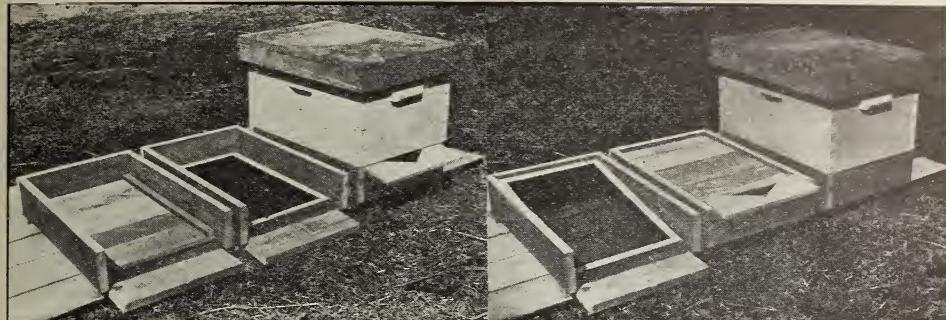
Dr. Pammell and Prof. Bartholomew, both from Ames, and Mr. Pellett, state bee inspector, gave very instructive and interesting talks. The beekeepers were very fortunate in having these three men in attendance. Miss Vessie Clow entertained with a fine reading, as did also Arthur Wright. J. W. Schlenker, of Ankeny, gave a demonstration in shaking. C. E. Dustman, of Des Moines, had a fine lot of queen-cells in various stages. Mrs. Longworth, the vice-president, presided in the absence of John Schweer, the president.

Two things the Polk County Beekeepers' Association can be given credit for are, securing recognition of beekeepers' associa-

tions in the State Fair Premium List, and securing a deputy county inspector for Polk County. Just as soon as Inspector Pellett saw the need for the inspector in this vicinity he decided to appoint a man for the work.

The object of the association is the encouragement of good fellowship among the beekeepers, educating the public in the use of honey, thereby increasing the demand, co-operation, and betterment in all directions. Probably the hardest thing we will find to cope with will be the securing of better prices as there always seem to be a few beekeepers in every locality who will dispose of their crop at any figure they can secure of it; but we can accomplish a great deal by united and determined effort for betterment in this line.

Des Moines, Iowa.



Swenson's combination hive bottom, valuable for ventilating, and also for moving bees.

THE BEST BOTTOM-BOARD THAT I HAVE TRIED

BY ED. SWENSEN

There has been so much written on different bottom-boards that I will describe the one I think fills the bill the best of any. This one can also be used as a feeder; but since I prefer the friction-top honey-pail described by J. L. Byer I will merely say that, by inserting a dripping-pan with a float in it, it makes a good feeder for certain times.

The bottom is very simple. It is made 4 inches deep, with the back nailed in solid; but the front piece is hinged so it can be let down and used as an alighting-board. This piece has two hive-hooks which hook on to the side pieces to hold it in place when raised.

There is no floor nailed in solid, but a board of $\frac{3}{8}$ -inch material with a rim around that slides in or out, which can be raised or lowered as occasion requires. This board is used in early fall, winter, and spring. In the winter it is lowered so as to give a deep clustering-space under the frames, which seems to be their choice when conditions permit. It is also impossible for the entrance to become clogged with dead bees, as the entrance is over 3 inches above the bottom.

In the spring it is again raised so as to make less room for the bees to keep warm; then when warm weather sets in this board is slipped out and a screen frame put in

place. Two two-inch pieces are nailed on the under side of this screen frame which hold it together; and they also raise it up off from the hive-stand so the air can circulate through the hive when the screen is in. This screen is tacked on to a rim which has two headless lath nails partly driven in on both sides, which slides in saw-kerfs cut into the side pieces for that purpose.

The front part of this screen can be lowered so as to form an incline; or if the bees are inclined to build comb below the frames the screen can be raised so there will be only a bee-space between the frame and the screen, when it will still serve its purpose as a ventilator. Or it can be lowered so as to give a three-inch space below for moving to and from out-apiaries, or in summer, as extra means for ventilation, which may be necessary to help prevent swarming.

The entrance-block I use is a four-inch piece $\frac{3}{8}$ inch thick with a V groove cut into it and a piece of screen tacked on one side. This also serves as an alighting-board. This is slipped in or out to regulate the size of the entrance; and by shoving it far enough the entrance can be entirely closed, which is very handy in moving bees. As we have the screen bottom we need not worry about the bees suffocating. The photograph shows clearly how it works.

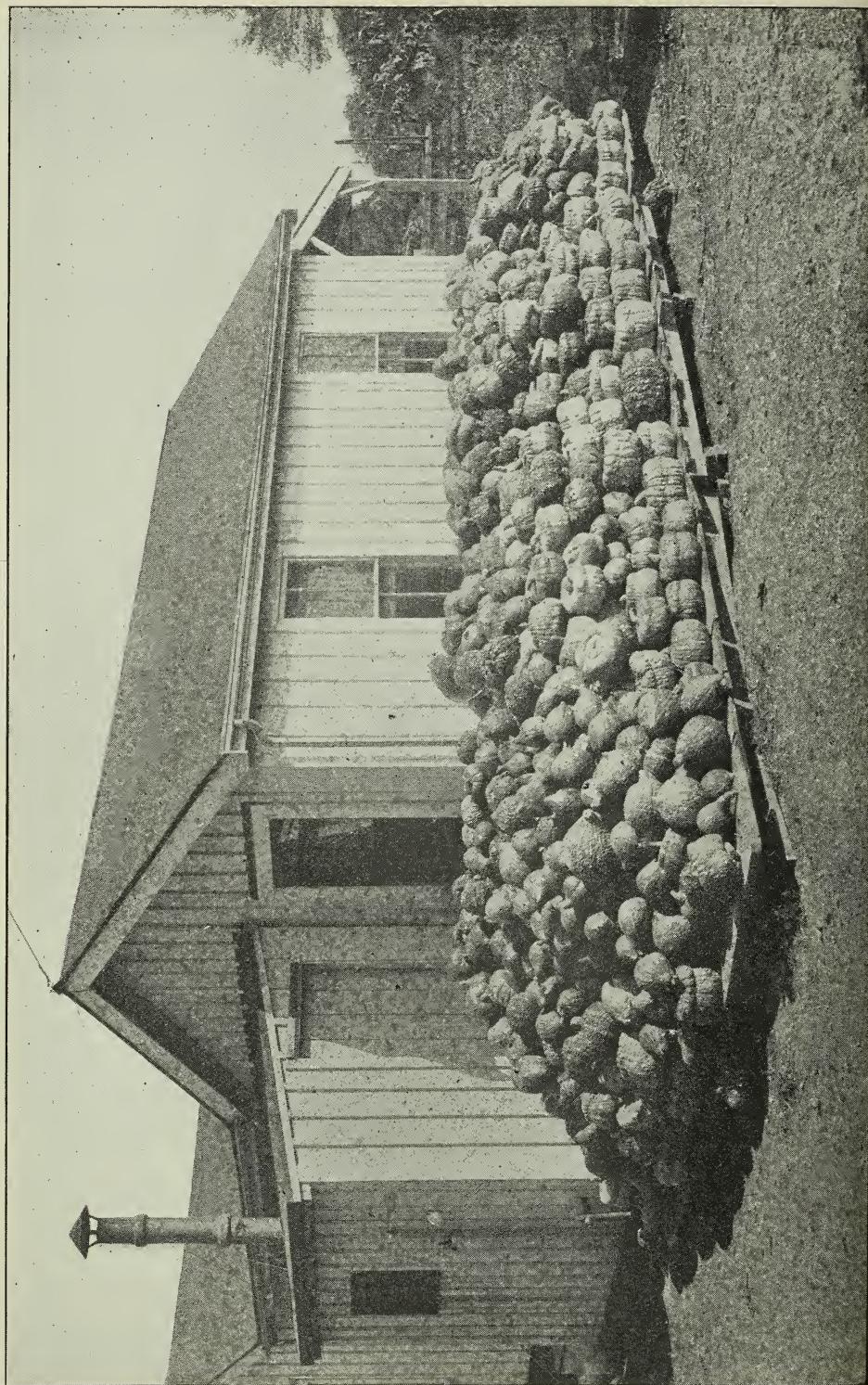
Spring Valley, Minn.

THE DEMAND FOR HONEY, AND METHODS OF STIMULATING IT

BY SUSAN E. HOWARD

The demand for honey is increasing, and it is from all classes of people. I try to educate my customers by demonstrating and advertising that honey is not a luxury but a necessary and economical food.

My first venture was in disposing of a surplus crop which did not move to my satisfaction in my neighborhood. Unknown to my husband, who had belittled the possibilities, I sallied forth on a pleasant after-



With the help of the bees, these eight tons of squashes were grown on five-sixths of an acre between 115 fruit-trees and 600 currant bushes; 54 bushels of green peas were also harvested before the squash vines were ready to spread.

noon with my sample of extracted honey and a supply of hand-whittled toothpicks for individual sampling. I purposely chose a section of the town where I was little known, so that my success or failure would be on the merit of the honey as sampled or on the method of presentation.

Success was beyond expectation, and I returned triumphant to relate my experience and plan a new campaign for the morrow.

Increased duties have taken me from this work which I enjoyed, and which I have found had a lasting result in that the local stores sought my honey as people demanded the "Howard Honey." Previous to my canvass the storekeepers were reluctant to stock my honey, saying they had but a "limited demand," etc. It seems a business law that a dealer will not stock an unknown commodity; but when a demand is created by the customers expressing a preference, the dealer, if progressive, will supply it. In the language of the pharmaceutical manufacturers, "I have detailed the doctors." This, as carried out by the manufacturers, is to have traveling men call upon the doctors and leave samples of their preparation and extol their virtue and possibilities.

It is a common experience to have strangers call at the door and ask for honey, stating that their doctor recommended it for a cough or other bronchial affection, and had suggested or recommended that he could get pure honey at the bee camp.

Duplicate orders are a large factor in my business, and I always consider my first order as introductory, and mention to the transient customer that I will fill all repeat orders with the same quality of honey, and by parcel post if desired. My experience is that price is a secondary consideration if the honey is clear, packaged neatly, and securely sealed. Under these conditions repeat orders are assured.

The container I have adopted is the regular lightning glass jar which appeals to the housewife as of value after the contents are used.

If near a thoroughfare, place a sign in a conspicuous place announcing "pure honey for sale," and you may be sure of sale,

especially if colonies of bees are in evidence. It is no unusual sight to see two or more automobiles at my gate, as I live on a much-traveled highway, and much of my trade is from a distance.

Another way of creating or stimulating the demand is by the distribution of leaflets which give recipes for the use of honey in cooking and medicine. These may be printed with your name and address for a nominal sum.

Always label your honey as of first quality, also with directions for keeping it if not for immediate consumption.

If your motto is "Quality and Absolute Purity," you need not question your future sales, but can feel assured that success will reward your efforts.

THE VALUE OF BEES IN FERTILIZING SQUASH BLOSSOMS.

Relying to your inquiry as to the value of bees to my squash and small fruits, I would say they are of the utmost importance, and they have been a great factor in my success in growing squashes. The development of a small orchard and fruit-growing is secondary to my bee interests; and while the trees and bushes are growing, I utilize the land by planting catch crops and fertilizing or cover sowings. The eight tons of squash shown in the picture were grown on five-sixths of an acre, which also carried 115 two-year fruit-trees and 600 one-year currant bushes.

The squash followed a crop of 54 bushels of green peas, which were harvested before the squash were ready to spread.

As recorded in Apiarian Bulletin No. 8, Massachusetts Department Agriculture, it was no uncommon occurrence to note four to six bees in a squash-blossom at one time, happy and contented. I have also counted 28 bees within an hour in one squash-blossom. The squash crop was the banner one for this section, for the land occupied, and was in marked contrast with results at a distance from my apiary.

To people who realized in a measure the good work performed by the bee it was a revelation, and substantiated my oft-repeated statement, "bees as flower fertilizers first, and honey production an after-consideration."

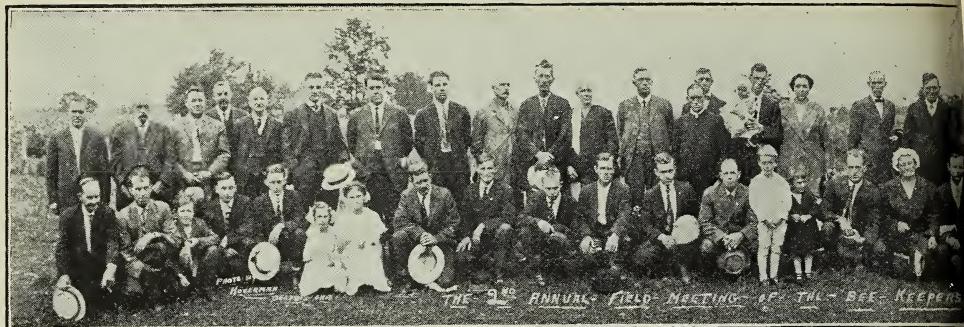
Stoneham, Mass.

THE VALUE OF SEPARATORS IN COMB-HONEY PRODUCTION

BY G. W. JOICE

Allen Latham goes after the production of comb honey with separators rather roughly shod, July 1, 1915. Some of his

statements being so far from "truth for this locality," for fear that such an article coming from such a well-known apiarist



might cause many beginners to attempt something that they cannot succeed in doing, I write this article in defense of the use of fences or separators. In fact, I wish to give the readers of GLEANINGS both sides of the story. I beg permission to quote often from the article by Mr. Latham.

"Which system can be made to yield the better average results?" Beyond all doubt, the average beekeeper and all beginners will succeed best by using separators. In fact, 99 per cent of the honey-producers would not have sections, even enough to put on the market, unless they used fences. (I am using the words fence and separator to mean practically the same.)

One of the objections to the non-use of separators is the trouble in crating on account of bulging combs. I discarded the idea of getting along without separators on account of the trouble with bulging combs and varying weights of sections from the same super. I was using full sheets of foundation at the time, but they would bulge anyhow. I have had finished sections weigh anywhere from 8 to 27 oz. each (extremes, of course), while with separators I have had 80 per cent of my crop grade "Fancy" to "Extra Fancy," and weigh within one ounce of the same all the way through. I never could come anywhere near that without separators.

Mr. Latham blames bulging to the use of weak colonies for comb-honey production. Not it, friend Latham. The strongest colonies are often terrors at the bulging trade, even going to the extent of tearing out the foundation (full sheet) of the next section, and bulging right on through it. In regard to brace-combs, that is something that is a rare bird with me—perhaps one section in a hundred. Often that is traceable to the foundation coming loose and lopping over against the fence.

I fully endorse Mr. Latham's views on the carton question, excepting that I do not care to have the honey more than even with

the wood. Fancy comb will not stand half the pressure Mr. Latham would lead the reader to believe. I carton practically all my honey for the retail trade and think it money well spent.

Mr. Latham writes: "Arguments for the production of non-separated honey are more than two:

- "(a) It is less labor to prepare supers.
- "(b) It is less labor to care for the product.
- "(c) Bees more readily enter the supers.
- "(d) Swarming is greatly lessened.
- "(e) Honey is of better quality.
- "(f) More sections can be put in a super.

"(g) A bigger crop can be produced.

"(h) Better for business."

I concede *a* and *f* without debate. As to *b* I acknowledge there are no separators to bother with; but think of the odd weights and various contortionate shapes some of the sections present. I should prefer separators for the ease of caring for the product.

In regard to *c* it is true, but not to any great extent. Perhaps they enter slightly better, but there isn't a great amount of difference. In regard to *d* my experience is the opposite. On account of the combs being built so close in the super, thus shutting off ventilation, the bees swarm more readily when the supers are without separators. Note that the Danzenbaker fences are similar to the dummies used in the Aspinwall non-swarming hive.

Passing to *e*, I find that honey produced with fences is of the better quality. It ripens more readily, contains less wax, is whiter, more fragile, tastes better, and sells more readily on the market. If I were to go back to producing honey without fences or separators I should lose half my customers on account of excessive thickness of cappings and waxiness of comb.

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lacking in uniformity. You are giving ten points of quality to gain one point in quantity. Mr. Latham acknowledges uniformity when he makes the following statement: "The casual observer will not note the slight difference in the sections of a fancy lot of separated honey **."

In regard to the challenge, I cannot see that it would have anything to do with the matter. No doubt Mr. Latham could select a nice even super of sections from his apiary, and the editor do likewise. But

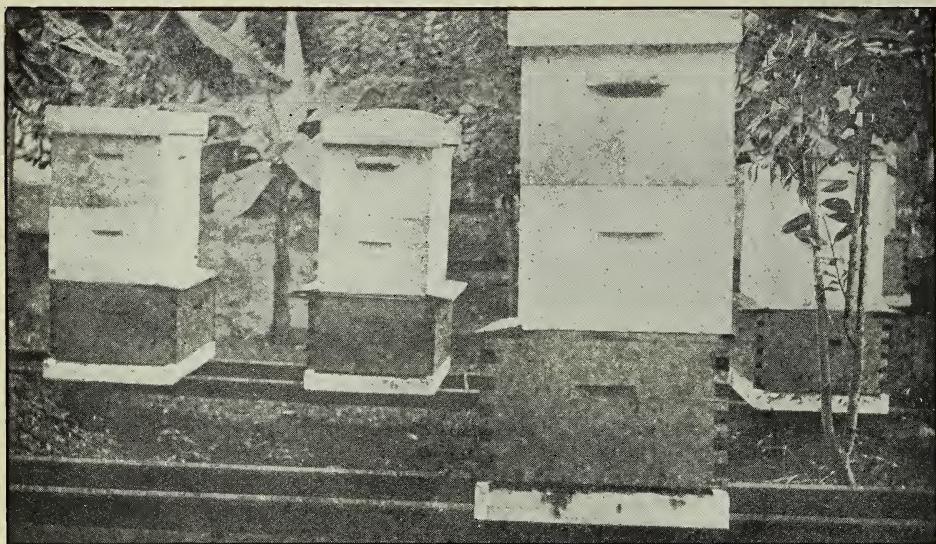
ADAPTING EIGHT-FRAME SUPERS TO TEN-FRAME HIVES

BY J. SAMUEL COX

All the brood-nests are now in ten-frame hives, while all supers are still the eight-frame bodies with eight-frame honey-boards and covers.

Having my ten-frame brood-chamber in its proper position all ready for supering, I take a piece of board previously prepared, the full length of the hive, $3\frac{1}{4}$ inches wide, $\frac{7}{8}$ inch thick on one side and $\frac{1}{4}$ on the other; putting on the wood-bound honey-board, I allow it to hang over $\frac{1}{4}$ inch on one side, when this above-named prepared piece is put on the other side that the honey-board does not cover. I then take an eight-frame hive with one of its bottom edges rabbeted out lengthwise $\frac{1}{4}$ inch. Putting this on the honey-board I allow this rabbeted side to project over on the prepared piece so that the $\frac{1}{4}$ -inch groove fits snugly on it. This keeps it water-proof. Instead of making this bit of board $\frac{7}{8}$ thick on one side it can be made the same thickness as the honey-board rim against which it butts; but being $\frac{7}{8}$ thick it gives a better slant for the water to run off.

As will be seen in the picture, the two hives on the back stand have one of these pieces on each side while the super is in the middle.



Eight-frame supers on ten-frame brood-chambers.

This looks a little better as to its form, but gives nearly three times as much trouble to fix up as the one with only one piece; and consequently, for the man who has little time, I would say the one-piece is better.

It may not be out of place to say here that the small tree on the right-hand corner of the picture is a bay-tree, from which bay rum is made. It is the principal shade for this apiary.

Guayama, Porto Rico.

AN EXPERIENCE WITH A TOWN BEEKEEPER

BY RUTH C. GIFFORD

One morning I was sitting on the edge of our back porch nailing honey-cases together when Mr. K., from the little town of N., drove in. He stopped his horses with a jerk, looked at me very carefully, and then sputtered out, "Say! I got two colonies of bees up in my back yard you can have if you will take them out of there."

"What is the matter with them?" I asked.

"Well, the blamed things are cross, and I'm afraid of them. Last summer I took the honey from one, and those bees stung me through three pair of pants and two coats. My wife had my head tied up in a sun-bonnet with a lot of mosquito-netting wrapped around it; but the bees got under it, and I had a terrible time. At present they are so cross that they're even stinging to death my chickens and ducks. I wish you would take them away. You can have them for nothing if you get the honey in the top part for me. They are both good strong colonies that will make you a lot of honey. They are in home-made patent hives."

After thinking it over I told him I would take them. But I wondered at the time why he laid so much emphasis on the fact that they were in home-made patent hives. I had never seen any until I saw his, and then I understood very clearly.

As soon as the flow from buckwheat and second crop was well started I went over to take off the honey for him. With me I took my bee-suit, an extra bonnet, a good smoker, and plenty of saltpeter rags for smoker fuel. The extra bonnet was for Mr. K., who wanted to "help."

The bees were at the south side of the barn in the chicken-lot. They were so close to the gate that a woman's dress would brush against one of the hives every time she went to care for the chickens. The lot was fairly large for a town lot, and at the lower side of it was an open meadow. If he had kept his hives close to the fence on the lower side, instead of near the gate, his bees would not have bothered people who went in or out. They need not have annoyed anything in the meadow either, be-

cause he could have fastened burlap along the four-foot fence, and then had a thick grapevine above that. In the photograph, two sticks leaning against the building mark where the hives stood. The gate is just out of sight at the left. If he had placed the hives at the lower end of the barn, or at the sunny end of the small unused pigpen, which is next to the fence in the picture, he would have had less trouble.

Then I started on those home-made hives. They had two-inch cleats around the outside at the top. The covers were of the gable telescope type, and exactly the same size as the hives, and so, of course, they rested on them and fitted snugly inside the cleats. The supers were a good bee-space smaller than the telescope covers. The bees found this space and just about filled it with propolis. Inside the supers two-inch-wide frames ran crosswise. The bottoms of these frames were narrow in order to let the bees up into the supers; but on the other three sides they fitted snugly together. The lower edge of the super and the bottoms of the frames rested directly on top of the frames in the hives. When I started to work I tried to pry off a cover with a screwdriver, but didn't budge it. Mr. K. brought a crowbar, and after fifteen minutes of hard work, on a hot day, that cover came loose. Every place was stuck up with propolis. The space between the top of the super and gable cover, as well as the super itself, was full of comb honey which had been built in every direction. I smoked the bees out of the way, cut the combs, and pried loose one



A bad place for a colony of bees.

frame at a time as best I could. It was certainly an awful mess, because every frame pulled apart. As soon as the old frames and comb honey, as well as some half-drowned bees from the first hive had been placed in a wash-boiler Mr. K. carried it to the cellar. By the next morning the bees had crawled out on the cellar floor and were easily swept up. If he had taken the honey directly into the house those bees would have warmed up and been harder to handle.

After the second hive was finished I scraped earth over the honey on the ground and took every precaution against robbing. I told him to burn the old frames as soon as he ent the honey out of them, and to be very careful not to leave the frames or any pieces of comb where the bees could rob them out, because it would make trouble with his neighbors. Imagine my surprise, a few days later, to find all the frames and some combs in the back yard—entirely clean. The street must have been a lively place while the bees were getting that honey.

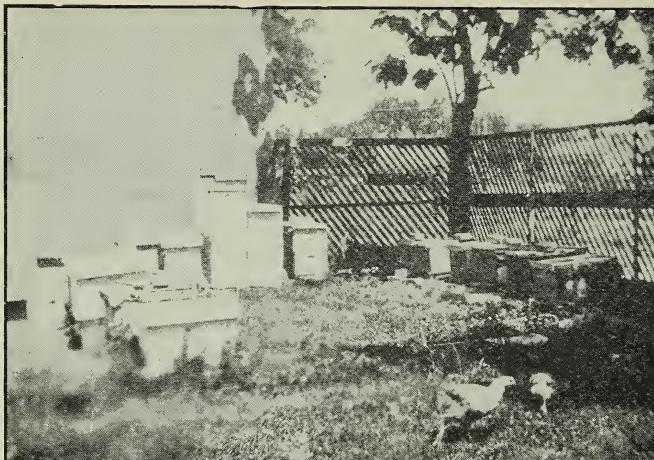
North East, Md.

ANOTHER TESTIMONY IN FAVOR OF "AIR DRAINAGE"

BY JOSEPH S. EWING

I read with interest Mr. E. F. Atwater's article, p. 496, June 15, on air drainage. I want to verify his statement from my own experience. In the enclosed picture of my apiary you will notice part of the hives set out from the building so that the winter wind sweeps around the corner. The others stand back in the corner where there is complete protection from the wind. Last

winter there was no lattice work as shown in the picture. The seven hives that were in the "sweep of the wind" this spring came out in fine condition—scarcely any bees on the bottom-board. On the other hand, the thirteen that were protected had great quantities of bees on the bottom-board, and two hives were dead, the bees being still between the frames with plenty



Sixteen colonies kept in a churchyard close to a hitching-rack that is often full of teams. The bees have made no trouble.

of stores and no foul brood. I can now understand how it happened.

This apiary consists of sixteen stands. It is located in the rear of the Methodist church, the corner of which shows in the picture. The church is located on the corner of two of the most important streets in town (Caldwell has about 4000 people).

not over 15 feet away. Last year there was no lattice between bees and the hitch-rack. No one has ever been stung or disturbed by the bees except on one or two occasions when, in mischief, one of the children disturbed the hives. Bees seem to get used to people and teams. They are Italians.

Caldwell, Idaho.

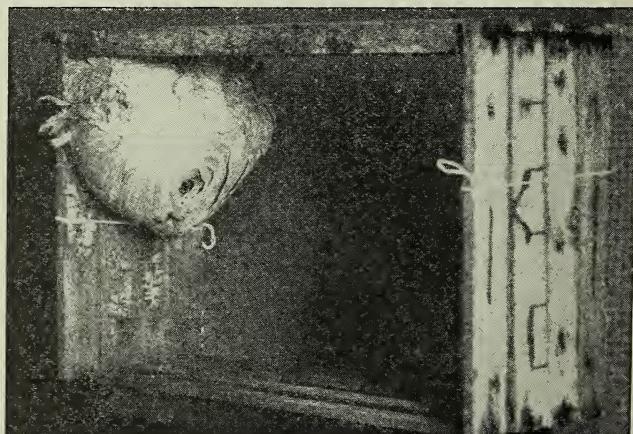
ACH, DOSE BEES! DOSE BEES!

BY VILHELM BEECUS

Vell, I dunno. I don't belief haff uff vat I hear alretty. I haff been reeting dose bee-papers a long vile, und sometimes ago I ret dot der easy vay to make money out uff bees iss to let der bees come und make dere home mit you. Vun feller sess he put up many poxes in der trees und dey vas all filled mit bees unt honney in der twinkling uff an eye. Vel, ven I ret dose beautiful vorts, I set: "Dot iss elefant lankvidge. Vot a dunderkop I haff been! Fortune hass been tr-r-rying to flirt mit me from der tr-r-reetops, like a coy and chentle maiden, und I haff been so blind to her beauty as a bat mit glass eyes." Und den, at vunce, I

got so plumb full uff der milk uff human kintness dot ven I took off my hat dere vas a grease spot on der hatband.

Und den I vent out und grabbed a un-



Dey vas all yellow chacketts.



A carload of bees twenty-four hours after they arrived at Fisher after a trip from Ordway, Colorado, 1115 miles. They were shipped in a 36-foot boxcar. The number of colonies was 342. I could have put in 72 more, and not lose any. I watered them once a day.

S. J. ALEXANDER, Fisher, Ark.

suspecting hive by der pants und der nap uff der neck und started for der voods. Vee will be a fodder und a modder to der little orphans vot iss mitout a home und iss battling mit der bloodtirsty elements, I set. Vee vill put up a asylum und dedicate it to der little bees; und vee vill took our pay in honey alretty. Und den I climbed der tree und laid der cornerstone in der branches. Ven I got down to der grount again I stoot dere a moment amit der silence und looked at der noble trees mit beards dot rest on der bosoms und vich neffer hat a haircut yet.

Dis vas oboat der first uff Chune, chentle reader. Vell, in Aukust, I tought: "Now iss der time to go und collect der rent from der orphans vat I haff so kindly provited for." So I took me such a bik pail yet und I went by der voods again. Soon I stoot again by der bik tree. Mit a shout uff choy

I started up der trunk. Dere vas someting flying in und out uff der entrance. Ven I got to der hive, I set: "I guess I go round by der back vay so I don't disturb der little bees in dere kind workng." Den I pulled up der cover vile a great choy vas strugling mittin me. "Ouch! ouch! ach, Himmel! Vat iss!" I set, vile a tousand orphans chust flew out eakerly to meet me. Vell, I chust paussed vun awful second, und den I plunched down to der grount. I tink now dot vas der greatest dive dot der world hass effer seen. Ven I reached der grount I felt dot dis iss no place for me, und I made up my mind to vent home. I slidded und I skidded und I hidded, but der enemy vas efferyvere. Ven der battle vas ofer, und I reached a clearing, I fikkered up der losses. Dere vas too thousand killed, tree thousand wounded, und sixteen tousand missing. Dey vas all yellow chackets.

A WHOLE HAREM OF QUEENS

BY O. BRONFIELD

On June 25th one of my colonies sent out a second swarm

While the bees were issuing I put on a queen-trap and caught two queens. The swarm settled contentedly, showing that they had a queen. The two caught paid no attention to each other in the trap. When I hived the swarm I found two more queens and let all four go with the swarm into the hive. The swarm refused to enter the hive until I put in a frame containing eggs and brood.

Next morning they swarmed leaving some bees on the brood. I hived them by putting an empty brood-chamber on the hive and dumping them in on the frames, quickly putting on the cover. I then put a queen-trap on the hive.

On June 27 the parent colony sent out another small swarm with three queens. I dumped them, queens and all, on the first swarm, making a fairly good colony with seven queens. This morning, June 30, they again swarmed. The trap caught one queen



Exhibit of J. P. Lucas for the Kansas Fair in 1914.

but others evidently passed through, as I saw two when hiving the swarms. How many remained in the hive I do not know. More bees stayed with the brood this time than before.

I opened the hive and found on the frame of brood seventeen queen-cells, all containing larvae.

To sum up, several virgin queens lived harmoniously together for five days, and the swarm, meantime, started seventeen queen-cells and swarmed out.

They drew out very little of the foundation on which they were hived.

The bees were Italian hybrids.
Asheville, N. C.

A SENSIBLE AND VALUABLE EXHIBIT AT THE KANSAS STATE FAIR

BY J. P. LUCAS

Many a time I have been accused of allowing my bees to destroy my neighbor's grapes and peaches, so I had a glass hive and super made, and in the hive put a good strong colony of bees; and in the super, as shown in the photograph, a dish of peaches and one of grapes. I thought it would be a novel idea to make such a display for the fair, as it would show the people that bees will not destroy sound fruit. I had the hive at the fairgrounds for a week, and then took it uptown with a nice lot of honey and placed it in a show-window where it stayed two weeks longer. During the three weeks the bees had not touched any of the fruit.

The other illustration shows a part of my display, especially the building made of

extracted honey, which caused lots of comment.

On the end toward the front I had honey produced from 24 different plants, all plainly labeled.

The door and windows were made of wax molded in small cakes, and placed on a board. The roof was made of bottles of honey, and on the sides and the other end I had my honey for competition, while in the background were the dried specimens of honey-plants and fruit put up in honey. I commenced canning fruit in honey five years ago, and have continued every year. So far, all of it, even that which is five years old, is in perfect condition.

Topeka, Kan.

BEES AND ORCHARD BLIGHT

BY E. R. ROOT.

A short time ago a correspondent of the *Rural New Yorker* protested against the attitude taken by editor Collingwood, favoring bees in orchards. The latter sent the letter to me, and asked me if I would present the bee side of the proposition. This I did, and my reply was published in the *Rural* for June 12. See Collingwood's letter in *GLEANINGS*, page 520. Since that time several have asked me why I did not publish the same or a similar thing in our own journal. Among them is a letter from Thomas F. Rigg, editor of the horticultural department of the *American Poultry Journal*—a journal that A. I. Root says is among the very best of its class. As Mr. Rigg is a horticulturist, and is not particularly interested in the bee side, except for the good it does to fruit culture, his endorsement means something. I am glad to give the letter here; and in doing so I accede to his request. Here is the reply.—Ed.

Mr. Root:—I have just read your article in the *Rural New-Yorker* of June 12, your reply to "I. C. R." of Dansville, N. Y., regarding bees and orchard blight. I want to congratulate you upon the able and forcible manner in which you stated the facts in the case. Of course, bees can carry blight, and so can numerous other agencies of creation which God in his wisdom placed in this world for doing their work in the interest of mankind. That the bee is of great value and service to the fruit-growers is a fact so well established that none but the very stubborn or uninformed person will dispute it. I hope every fruit and farm journal in America will reproduce your article.

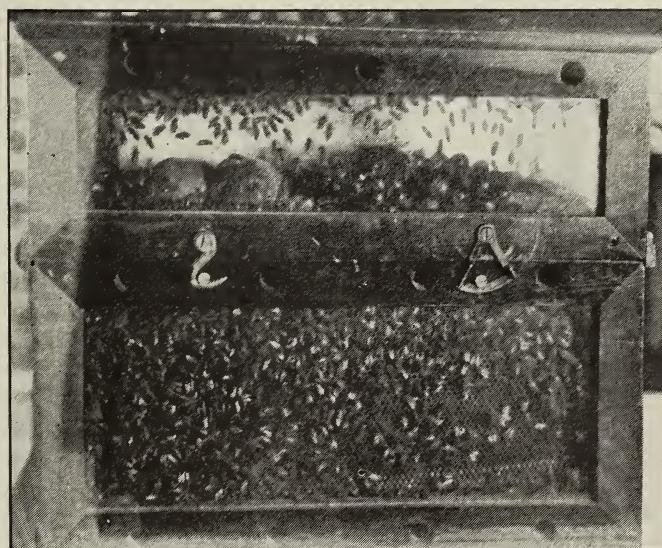
THOS. F. RIGG.
Iowa Falls, Ia.

I notice you have bees in orchard and your approval of the plan. All looks very well and is all right until there comes a year when the blight sweeps over that section as it did through this part of the state last year. This blight is carried by bees and insects; and the more numerous, the more damage. The statement was made on the institute platform last winter that bees in an orchard were a great damage, and that they had done hundreds of dollars' worth of damage in some orchards the past season. As we had a dose of it ourselves, and I spent six weeks cutting out little blighted twigs, and in some cases lost the whole tree, I certainly agreed with the statement, though it was, indeed, a great surprise to me to hear such a statement made, as I had been of the same opinion as you, in regard to the value of bees in an orchard.

Dansville, N. Y.

I. C. R.

It is generally admitted by practical and scientific bee-men that bees may carry blight; but that they may do the larger part of it is not proven. If all the bees were removed from districts where blight has started, there are flies and other insects, as well as common ants, to scatter blight right and left. The syrphus flies are a common example of a fly that looks very much like a yellow-jacket, and which frequent the blossoms of fruit-trees.



A practical exhibit for a fair. Silent proof that bees do not touch sound fruit.

soms of fruit-trees in early spring.

The writer was called to inspect some pear orchards in central California, in the Joaquin Valley, about 15 years ago. It was alleged that the bees were the sole and only means of scattering the blight; but I proved beyond any question that young trees just set out, and which had never blossomed, were blighted worse than the older trees. Myriads of ants were crawling all over the trees as well as the young ones; and flies of every description, as well as bees, were present in the orchard. The bees were removed to accommodate the fruit-growers; but very little fruit set the following season,

and the pear men were among the first to ask to have the bees brought back. In the mean time, they had neglected to prune off the blighted limbs. Instead, they applied patent medicines; bored holes in the roots of the trees, and poured dope into the holes. The result was, that the blight practically destroyed the orchards. The destruction should not be charged to the bees, but rather to the ignorance of quack doctors.

This matter of blight among ordinary apple-trees comes and goes certain seasons. Some varieties of trees are more immune than others; but even if we admit that the bees do the largest part in the transmission of blight, no less an authority than M. B. Waite, of the Department of Agriculture, Washington, D. C., has made the statement that, even if the bees do carry blight, they are indispensable in most fruit-orchards, especially if the varieties are sterile to their own pollen. In this opinion he is supported by other scientific men and by most of our intelligent fruit-growers. The facts are, bees do ten times more good than harm in an orchard. The great Creator of bees and trees did not intend that they should be out of harmony with each other; and they are not if man understands his job. In the writer's own orchard last season considerable twig blight showed up in several apple-trees. I referred the matter to our State Orchard Inspector, N. E. Shaw, at Columbus. He came down to inspect the trees; and while he admitted there was twig blight and that the bees might have helped to carry it, he told us not to worry about it, as it would probably all disappear another season, and it did. Intelligent pruning, if the blight runs down the larger limbs, will keep the disease in check. Very often careless pruning spreads the blight, because the shears or saws which are used again on other trees carry with them the infection right into the wood. I do not suppose I. C. R. did this; but unless he was very careful to prune clear back of the

blight, and disinfect the tools, he would only aggravate the trouble.

Beekeepers everywhere are being asked to put bees in orchards. We have more calls to supply bees for the large fruit orchards in our immediate vicinity than we can supply. The call has been so insistent from the fruit-growers that we shall need something like a thousand colonies next spring to take care of the demand. One apple orchard of 50 acres grew 16,000 bushels of apples where our bees were placed by request; and we might cite hundreds of instances of a like nature, but we will refer to only one—the famous Repp Brothers, of Gloucester Co., New Jersey. These people raise apples and other fruit by the tons and the thousands of bushels, and yet they say they must have bees and plenty of them. Blight? Yes, there may be a little of it; but what of it? They cannot get along without the bees.

If I. C. R. will cover some of the limbs of his fruit-trees with mosquito-netting the spring before they come into bloom, on varieties that are sterile to their own pollen, he will be surprised to see how little fruit will set. If he needs authorities as evidence, let him consult the Experiment Station at Ithaca, N. Y.; the Experiment Station of Oregon; Horticultural Commissioner Dr. A. J. Cook, of Sacramento, Cal.; and California is the largest fruit-growing state in the Union. In fact, I suggest that he get in touch with any experiment station in the United States. The notion that bees, because they may scatter blight in orchards, ought to be banished is as foolish as it is unwise. If bees are a serious menace to the fruit industry, the great mass of fruit-growers would have discovered the fact years ago; but many of them are asking to have them put on their places. An example of this will be found in the next largest cherry-orchard in the world at Bellevue, Ohio. Bees are placed all over the orchard; and when enough could not be secured some were secured from Florida.

E. R. Root.

A HIVE-BOTTOM THAT IS ALSO USED AS A COVER

Some Interesting Appliances for Feeding, Introducing, and Queen-rearing

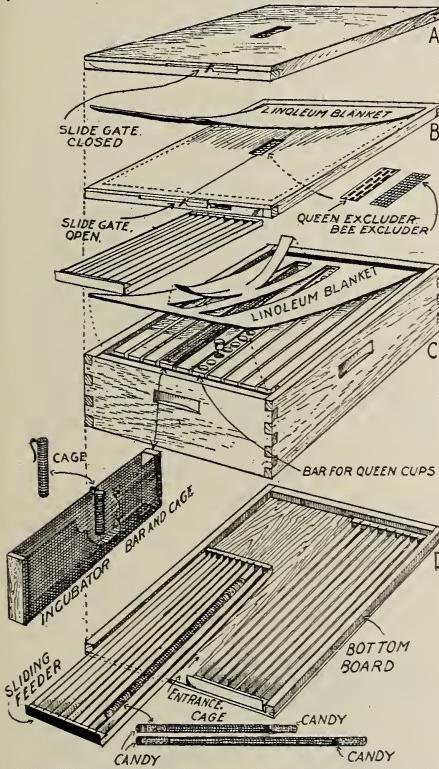
BY WESLEY DIBBLE

My hive bottom is of uniform size, $16\frac{1}{4}$ by 20, and can be used on any style of hive. It is also used as a cover, and I use it for many purposes, as shown by the illustrations. The rim is of $\frac{7}{8}$ -inch material which is the proper height for the feeding-pan accompanying it. This bottom-board re-

quires only a flat surface to stand on for one, two, three, or four hives, and is excellent for the Holtermann winter-stand, four in a group.

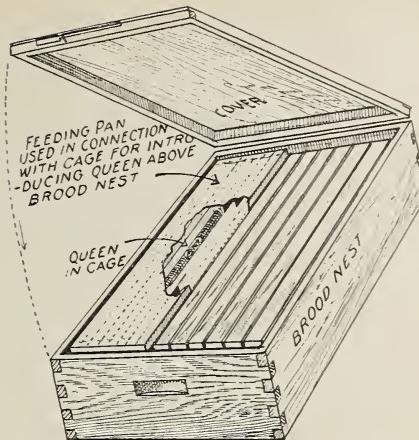
The feeding-pan, which holds one quart of sirup, is also a receptacle for a queen-introducing cage, which I use either below

or above the brood-nest for feeding or introducing queens. If the colony is weak I feed below and introduce above. If the colony is strong I feed above and introduce below. I don't meddle with the brood-nest in either operation. I believe I am familiar with all the introducing-cages now in use. If I am not mistaken, they all require opening the brood-nest for introducing queens and removing the cages, which is the cause of losing so many queens in introducing. The cages are so small that only a part of the bees become familiar with the queen.



Dibble's queen-rearing appliances and cylindrical introducing cages. The "incubator" shows but one queen-cage. A dozen or more may be hung side by side.

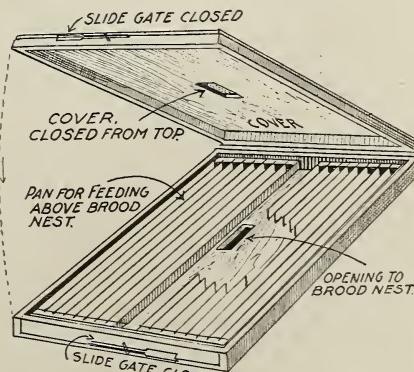
Studying out this problem of feeding and introducing queens, which I consider the two most essential things connected with successful beekeeping, I have united the two appliances in a very simple manner; and with me I am very successful in introducing queens, not losing one as yet. I perfected this pan and cage last August, and immediately introduced ten queens. All were laying in eight days—my first look at them after introducing. I am certain that this system will introduce more queens safely than any other.



Introducing a queen above the brood-nest.

This pan is indestructible. It is manipulated easily, and places the feed right under the bees' noses. Second, the introducing-cage in connection with the pan introduces queens automatically without opening the brood-nest, either before or after introducing, and introduces the queen to all the bees instead of to only a few, as with other cages. For long confinement I use the long cage, which gives the queen full access to the whole length of the hive. The short and medium lengths I use automatically for strong and weaker colonies as required. The bees will liberate the queen in from 48 to 56 hours, if the proper amount of candy is used, and the queen won't leave the cage until the bees will accept her, if left alone. The hive should not be meddled with for a whole week.

By the use of this combined cover and bottom-board I keep all bees on the one stand, if desired, swarm or no swarm; make



The pan as used for feeding above the brood-nest.

nuclei, mate queens, supersede old queens without removing the bee-escape; queen-exclude, and other little tricks of the trade. I live in the city of Brooklyn, in the middle of a solid block of brick buildings; yet I have a fair-sized apiary in my back yard, and sometimes on the roof. I need room, and get up and down instead of sidewise; but I hear no complaints from my neighbors about my bees being a nuisance.

A QUEEN-REARING OUTFIT.

The idea of my queen-rearing outfit is old, yet the application is new. It can be used in connection with any strong colony. The cover described above is essential to success. I believe the very best of queens can be reared with this simple outfit if one understands the conditions under which good queens can be reared.

Brooklyn, N. Y.

KEEP THE QUEENS APART

BY W. T. CARY

I tried the Alexander method years ago when it was being generally described in the journals, and I think I thrashed out the principles involved pretty well from all sides to my satisfaction until I made a success of it with a little modification. The modifications, I think, were suggested from articles I read in GLEANINGS.

There are a number of reasons for losing queens; but the principal one seems to be the disposition of the bees. I had some fine gentle Italians, and some blacks and some hybrids, and I found a great deal of difference. I am satisfied that, if my bees had been all gentle Italians, like Alexander's, I should not have needed any modifications.

Use two queen-excluders instead of one, with a bee-space between them. If you have the wood-zinc or wood-and-wire excluder, simply lay one on top of the other. Then provide an independent entrance at the back end for the weak colony. The object of the double queen-excluder is to prevent the queens from getting their heads together and quarreling. If the queens get to quarreling the bees will surely take it up, and a fighting force will go up from below. The object of the back entrance is to enable the fielders from the weak colony to get out without going through the strong colony below where they might get killed and cause a general commotion.

If these manipulations are made at a time when the bees are in a good humor, and all quietly arranged, there will be very little danger, according to my experience. Why? Because the danger resides in the queens themselves or in the fielders, which every beeman knows is the fighting force. The queens cannot get close enough to quarrel, so the fielders in the weak colony will be afraid to go below when they can avoid it, and the fielders below will have no incentive to go above, as they do no house-

work, and their business leads them the other way and to the fields.

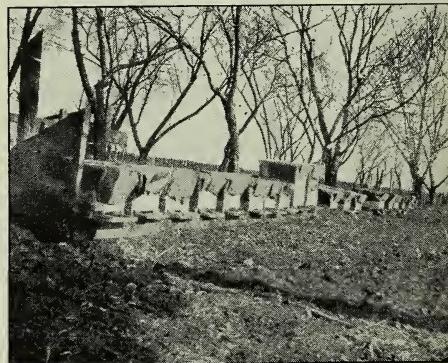
Scarcely a bee will pass through the excluders except a lot of young greenhorns that do not know any better than to wander about and take up with any queen or working force that comes handy. Such will be more than welcomed and coddled by the weak colony until they have a strong force that will fight for their adopted mother.

Wakenda, Mo.

BEES THAT PAID THE TAXES ON THE FARM

BY J. C. DOWNEY

The picture shows my apiary in winter quarters. Three years ago 9 colonies of this apiary produced enough honey to pay the taxes on my 120-acre farm, which is worth \$150 per acre. In 1914 the 19 colo-



nies produced just two pounds, or really one of the 19 did. We had two extremely dry summers in succession here—1913 and 1914.

Jerseyville, Ill., Feb. 8.

A SERVICEABLE BEE-HUNTING BOX

BY M. L. DODSON

When hunting for wild bees I use a box 4 x 6 x 3 inches, made out of light box boards. A piece of glass is cut to fit in sawcuts about $\frac{1}{4}$ inch below the top. The glass should project over one end of the box about an inch to make a handhold. Two blocks, each $2\frac{1}{2}$ inches, are fastened on the bottom of the box, one at each end. This leaves a crack one inch wide and four long. A piece of window-screen four inches square is bent into a V shape and tacked on the ends of the blocks. Three or four holes are punched in the top with a leadpencil. This screen forms an escape leading into the box. Two pieces of old comb are put on the blocks and a little sugar syrup or diluted honey is poured on them and the box is ready for use.

Hold the box over a bee on a flower and it will soon crawl up the screen into the box. When you have caught a dozen or more, and they have started to feed on the bait, release them. They will fly directly home with their load, and every bee will bring back three or four more. When they get well started, close the glass cover, and every bee that returns will find its way up through the screen into the box.

When a sufficient number has been cap-

tured, start with them in the direction the bees have been coming from. Release a few bees occasionally and keep on following them till you come to the tree or house they are in.

They are sometimes hard to follow with the eye, as they will circle around several times before starting home. But if you can keep your eye on them till they fly directly away in a straight line you may be sure that is the right direction.

Another way to get them started is to leave the box in a sunny place for a few hours. If there are any bees in the vicinity they will soon find it, as the smell of the comb attracts them. When they have started, close the cover and proceed the same as though you had found them on flowers.

There are times during the summer when bees will not work on bait, as there is plenty of nectar in the field. The fall is usually the best time to hunt bees.

If you want to save the bees be sure to get them early enough so that they can get established in their new quarters before winter. In the spring, say about fruit bloom, is the best time to get them if you are after the bees.

Jennings, Kan.

CO-OPERATION IN NEW ZEALAND

BY E. G. WARD

The sixth annual conference of beekeepers was held in Wellington, June 2-4. The attendance was slightly smaller than last year, but there was plenty of enthusiasm. The season of 1914-'15 has been one of the worst on record. In the southern districts wet cold weather was the rule, and in Canterbury (middle portion of the Dominion) there were persistent strong northwest winds day and night for several weeks. Dry weather prevailed in the northern districts. One good crop only has been secured, and this from bees located in swampy country—from nothing to half a crop for the remainder.

The conference was opened by the Hon. R. H. Rhodes in the absence of the Premier, Hon. W. F. Massey. He gave figures showing that the industry is progressing on satisfactory lines, and promised careful consideration of any requests or suggestions which might be offered. The president, Mr. James Allan, appealed to those present to allow "brotherly kindness" to

prevail; and it may be said here that the request found favor, for there was a marked absence of anything in the way of uncharitableness.

The annual report showed that the National had been instrumental in arranging for the supply of large quantities of honey for export to the United Kingdom. Negotiations were entered into with Major Norton, representing the Bristol and Dominion Producers' Association, for the supply of not less than 100 tons and not more than 500 tons of first-quality honey per annum for a term of three years at a satisfactory price. As the National Association is not a trading concern, arrangements were made with the New Zealand Co-operative Honey-producers' Association, Ltd., and a contract has been drawn up and signed by both parties.

The New Zealand *Beekeepers' Journal*, which has now attained its first anniversary of publication, was shown to be on a satisfactory basis, and had fully justified its

existence. It will be continued, and several experienced apiarists present promised assistance in writing articles.

The membership has slightly decreased; but two associations had affiliated—the Canterbury Beekeepers' Association and the South Canterbury Beekeepers' Association. There are still three associations unaffiliated, and an effort will be made to induce these to fall into line during the coming year.

Three sessions were held daily, and all were well attended. The incoming executive was instructed to take steps to establish a fund for defense purposes, to be kept separate from the general fund.

It was announced that amendments to the Apiaries Act would be gazetted shortly, and that the registration of apiaries would be included. This has been urged by several conferences, and the announcement was greeted with applause.

A number of valuable and instructive papers were read at different times, notably "The Food Value of Honey," by Mr. B. C. Aston, F. I. C., B. C. S.; "Co-operative Selling Propositions," by H. W. Gilling; "A Short Cut in the Treatment of Foul Brood," by C. J. Clayton.

The evening sessions were chiefly given over to discussions on various subjects connected with bee management. Of special interest was the discussion on "Can we Improve the Flora of our Districts to Provide Higher Qualities of Honey?" and "The Importance of the Honey-bee to the Fruit-growing Industry." Mr. W. E. Barker, Peel Forest, who is an authority on New Zealand flora, was particularly interesting in his remarks; and M. J. Rentoul, Cheviot, ran him very close for first place.

The conference resolved to recommend that the water content in honey, to comply with the provisions of the pure-food act, should be reduced from 26 per cent to 20 per cent. A number of samples of New Zealand honey had been analyzed, and were found to vary from 14 to 17 per cent.

Mr. F. A. Jacobson, government grader, gave a demonstration of grading honey for export. He explained the methods and how points were allotted.

In the second day of the conference a special general meeting of the shareholders in the New Zealand Co-operative Honey-producers' Association, Ltd., was held. The Dominion has been divided into seven districts for the purpose of dealing with local trade. Directors were elected to represent the various districts, and resolutions submitted provided power for a committee of three to be appointed to manage the com-

pany's affairs in each district where a bottling depot is established. It is hoped that, next season, depots will be an accomplished fact in two districts at least, in addition to one already running in Taranaki.

On the last day a presentation of a traveling-rug was made to Mr. Isaac Hopkins, and a trinket to Mrs. Hopkins as a small token of the esteem in which Mr. Hopkins is held. On account of the war, Mr. Hopkins' departure for England has been delayed indefinitely. In making the presentation, Mr. Allan, president, made feeling reference to the kindly feeling beekeepers have for Mr. Hopkins, who is known as the father of beekeeping in New Zealand. Mr. Hopkins thanked the donors very heartily, and related a number of anecdotes connected with beekeeping in the early days.

The following officers were elected for the coming year:

President, J. S. Cottrell; vice-president, M. J. Rentoul; North Island representatives, Mr. Askew and W. J. Nicholas; South Island representatives, Mr. W. E. Barker and W. B. Bray; general secretary, Mr. Stewart Wright.

St. Albans, Christchurch, N. Z.

NIGHT

BY GRACE ALLEN

In the mystical hush of the night I pause
And send my thoughts round the curve of the world;
Here there is silence and slumber around
And moonlight for miles unfurled.

This part of the world is asleep, so still
One scarcely remembers the throb of the lives
Of millions of men at rest in their homes
And millions of bees in their hives.

Then out past the night my thoughts sweep on
And pause where the dawn of a day has begun,
Where strong men waken and children spring up
And bees flash out in the sun.

Then swifter than light my thoughts race on
Where for thousands and thousands of miles it is day,
With traffic's roar and the rush of the town
And the bees in fields far away.

Still on and around my swift thoughts trail
Till they sink at last with a setting sun,
Where work-wearied men and homing bees
Seek rest, and the day is done.

"And ah! through it all," I think "through it all,
Is life and love and death and birth,
And a million of men and a million of bees
And the mystery of the earth!"

Heads of Grain from Different Fields



The Backlot Buzzer

BY J. H. DONAHEY

Dogs wag their tails and folks smile when they express their pleasure; but whatever induced the bee to stand on its head and wiggle its wings?

Wants Definite Figures on Honey-selling

A matter that is often neglected in the bee-journals is the matter of putting up and wholesale selling of extracted honey. Let us have facts and figures.

Let's start with an amount of honey, say ten or twenty cases (1200 or 2400 lbs.). Suppose one buys at the market price direct from the producer. It is worth just as much if the producer is the bottler also. It is necessary to pay freight on honey, buy glassware from any of the supply catalogs, pay freight and breakage on glass, and to heat, strain, and clarify honey. Take into consideration the labor at a fair amount, and the depreciation of equipment. Next will be labels and cases if glass is ordered in crates, applying labels, cleaning glass, and filling glass. Now comes the selling part. Either advertising or soliciting orders will be demanded. Delivering or freight should also be taken into account.

Will some one be so kind as to give us information on all these lines?

It seems we are too much on production and not enough on uniform price and distribution.

NET-WEIGHT LAW O. K.

I observe that an effort is being made to have sections weighed in with the honey as a comparison to the wrapping around hams. Please take into consideration that the wrapping weighs perhaps 3 or 4 ounces to a ten or twelve pound ham, while the section weighs 1 ounce to every 10 or more ounces. I am in favor of the net-weight law as it stands, requiring the producer to mark the exact net weight on each section or other package. Give the consum-

er a right to know how much he is buying. It is only fair. We all like to know what and how much we are getting. If the producer can see no other way to get pay for that ounce of wood, let him ask a cent or two more for his honey per pound. They don't complain if you explain the matter.

Akron, N. Y.

WILLIAM VOLLMER.

Cotton Cushions All Right, but the Bees were Too Old

From our experience with cotton cushions we find, first, they act as a heat-retainer; second, they are a moisture absorbent; third, they are clean and light in weight. Our combs are dry, and free from mildew where bees have died. The same dry condition is found in hives where bees are alive. We use an all-over deep casing, the same as Mr. Martine speaks of in the March 15th issue. In the month of January, when there was an outside temperature of 19 degrees, we found that we had a temperature of 72 degrees on top of the cushion.

But in spite of all these perfect conditions our loss has reached 50 per cent. Some of the old-timers may wonder why this is so. Which has the greater vitality—a horse 25 years old or one 5? Knowing what a poor year 1914 was, we have the story in a nutshell. Old bees to the extent of 60 per cent, when going into winter quarters, are beyond wintering.

Our queens stop laying in September. We started to feed up. We fed some 1000 or 1200 lbs. of syrup, but, no use. There was nothing doing. Our bees started brood-rearing the middle of January.

H. G. Quirin agrees with us as to the cause of the loss. He uses the tenement hive, or four-hive winter case.

Bellevue, O., April 10.

N. B. QUERIN.

Net-weight Law in Florida

Florida beekeepers should notice that all packages sold or for sale must have net contents of same stated in weight, measure, or numerical count, conspicuously, legibly, and correctly, on the outside of the package. This law was passed by the Florida legislature in 1913.

Apopka, Fla.

FRED E. MARDEN.

Tartar Emetic for Ants

I was troubled very much with ants in my honey department. I was advised to get ten cents' worth of tartar emetic and scatter it lightly in the honey-house or put it into small dishes, adding a little water. In three days not one ant was left.

Conesus, N. Y., Aug. 18. D. W. TRECOTT.

Belligerent Bees

At one time I thought I had tame bees, but a recent swarm certainly disproved this idea. It settled on a Norway spruce tree about 30 feet aloft. I took a ladder, set it up, and fixed myself with bee-hat, gloves, etc., and thought I was in good shape.

I began sawing off the limb; then the fun commenced. The bees went after me by the hundreds, my gloves were covered with bees stinging for all they were worth, and my hands felt as though they had no gloves at all.

I thought of the Backlot Buzzer and took courage. I got the limb down, but it had few bees on it. Then they discovered my cotton socks. I never was a dancer, but I could have danced that time without

music. I did not get the queen, so they went on another spruce tree, and settled in three bunches near the ground. This time I took a wash-basket and a hoe, and knocked the largest bunch into the basket. I dumped them in front of the hive, but that time they found a way through my hat, and turned their artillery on my face.

I do not think I need to be stung by any bees to keep rheumatism away for some time. I wish some one would tell me why those bees were so cross. We had a storm that night, and a cold rain for several days.

Lucinda, Pa.

J. B. VOGELBACHER.

Field Meeting at Pembroke, N. Y.

The field meeting and basket picnic held at J. N. DeMuth's apiary at Pembroke, N. Y., under the auspices of the Western New York Honey-producers' Association, was very well attended in spite of the rainy weather that prevailed in the forenoon. The fore part of the day was mostly getting acquainted and renewing old acquaintances, which always seems to be a jovial reunion when beekeepers meet.

Messrs. Vollmer and DeMuth removed several supers of honey from the hives, brushing off the bees with a brush of their own design, which certainly has the old hand method stripped outright.

Several colonies were examined and queens found. Some present favored three band and some the goldens. Mr. G. C. Greiner told of his victorious campaign with European foul brood four years ago. Mr. J. Roy Lincoln also related his experience along the same line. All seem to agree that a vigorous strain of Italians is needed to clean up the disease and hold it in check.

Mr. J. T. Rasch told of his method of rearing queens and building up nuclei—a line in which he specializes to quite an extent, as he usually sells bees every year. Mr. L. F. Wahl also exhibited some of his handiwork in the queen line, which was certainly fine. He also does quite a large honey business, putting up considerable in quarter-pint milk-bottles for the trade.

While this was a basket picnic, Mr. and Mrs. DeMuth deserve special credit for lunch and refreshments they served to those who were inconvenienced or forgot to bring some. Several members were added to the association. This field meeting is to be an annual feature.

Akron, N. Y.

WM. F. VOLLMER.

The Cost of Bees and Drawn Combs

In some cases the answers to questions on bee values, page 419, do not seem to cover the points quite satisfactorily. Replying to 1 and 5 you say that in the spring there would not be 30 or 40 lbs. of honey in the combs. True; but I suggested that, as a business man, if you wintered bees on this amount of honey, and then sold them in the spring, you would naturally add the value of the food consumed—in this case about \$6.00. You cannot have your pie and eat it too.

Of course I was in each case speaking of "things as they are" in British Columbia. Beekeepers here have not yet accumulated large surplus stocks of brood-frames, and there is always the risk of foul brood in disused frames, which, generally, come from hives whose former inmates have died.

Somewhere (in the A B C, I think) I have seen a certain beekeeper's success attributed largely to the fact that he possessed some 2000 surplus brood-combs. Now, at the low price of 25 or 35 cents (your figures) each, one might easily procure a like supply, and so swell the ranks of the successful ones, but that is not feasible here.

The market price of beeswax is admittedly low, and I understand that the amount of honey con-

sumented by the bees, in proportion to the wax secreted, is not definitely known (1905 edition of the A B C, glossary, p. 407, says, "The production of each pound of wax requires 10 to 20 lbs. of honey"); but we will say it is 10 to 1—that is, on our values of honey at 17½ to 20 cts., wax should be worth over \$2.00 per lb., especially in view of the time consumed by the bees in the cluster. This brings me to my point—viz., I can buy foundation at about 70 cts. per lb., but I cannot get the extra wax added to it in the drawing-out and building process for less than \$2.00 per lb.; and I think that this fact goes a long way to prove my contention, that 67 cts. is not a high value to put on a good frame of worker comb. They cannot be manufactured by machinery, and we do not care to try importing them for fear of disease, which we are especially anxious to keep out (or clear out) of British Columbia, hence it looks like a corner in combs in favor of the happy possessor.

As a matter of fact I value my combs at \$1.00 each. They are ready for any emergency, and would be hard to replace. Let me whisper here that the honey crop in this district is a practical failure; and it was for only a very short time, during fruit-bloom, that the bees worked at drawing out foundation.

I know of folks who imported bees by weight, put them on foundation, and lost them by starvation for this very reason.

Like so many problems in bee culture this seems to depend largely on locality. Yours may be an exceptionally difficult one.

North Vancouver, B. C.

FRED E. WHITE.

Old Story to Him

The method of swarm control proposed by Mr. Chalon Fowls, page 574, July 15, is practically the same plan I have been following for the past two years without knowing that Mr. Fowls or any one else had been practicing it.

The only difference is that I do not remove the top super of brood unless I want increase. Furthermore, I work the bees on this plan even before they start queen-cells. I seldom have a swarm, but secure good crops of honey. I keep the hives raised up on small blocks. This plan works well with such prolific breeders as Carniolans and Caucasians.

The "Long-idea" hive appeals to me for the following reasons: There are no supers or queen-excluding boards to remove when one desires to examine the brood-nest or queen. It is very easy to transfer frames of brood from side frames or to side frames or supers. One can handle many more Long-idea hives in a day than the present style, and give better attention to each. There are no supers to store away nor carry to out-apiaries. I expect to test one the coming season before I purchase a further stock of the present style.

Andalusia, Pa.

H. W. FULMER.

An Experiment to Get Rid of Laying Workers

Having found a hive containing laying workers I first introduced a frame containing eggs and brood to see if queen-cells would be started; and on finding the case hopeless I referred to the A B C and X Y Z of Bee Culture without getting much encouragement from it. It occurred to me that the laying workers probably develop the instincts of a laying queen, and so would tend to remain in the hive on the combs and not go abroad seeking nectar as do their fellows. Reasoning thus, I moved the hive to an out-of-the-way spot with its entrance facing in a new direction, and there shook all the bees off the combs into the hive. I then removed all the combs except one containing drone brood which I left in

the hive to act as a bait for the laying workers. I next placed a new hive on the old stand, giving it some frames with eggs and brood to see if the field bees on returning would start queen-cells. I was much pleased to find the plan successful and queen-cells started, and so gave a ripe queen-cell which duly hatched, and the queen was accepted.

To return to the old hive with its single frame, I found there sufficient bees to cover only this one frame, and to save these I shook them up with the bees of another hive in the apiary with which they mated quietly and peacefully. This latter plan may be dangerous, as the laying workers might kill the queen in their new quarters; but I felt the chances were against it, which proved to be the case. The whole plan was extremely simple, and proved very effective; and I hope if any of your readers try it they may also report success.

C. HOGAN, Sec., Annapolis Valley Branch Maritime Beekeepers' Association.
Port Williams, Nova Scotia.

The Beekeeper's Opportunity

With a bountiful harvest, and the market anything but favorable on account of the European war, beekeepers have an excellent opportunity to try advertising as a means of disposing of their honey. The consumers would use more honey than they do at present if the many excellent points of this article of diet were kept more constantly before them. Think of the "slump" in breakfast food sales if the manufacturers were to cease their advertising for a month!

Mr. W. W. Lourance, of Centerville, Texas, has for several years past sold his honey by inserting the following small advertisement in the classified columns of a farm paper which circulates largely among the Texas cotton, fruit, and truck growers:

Honey that will please you at right prices. Bulk comb and extracted; one-gallon pails, five-gallon cans, freight paid.

HONEYDALE APIARIES, Box 43, Centerville, Tex.

"We have been blessed with a bountiful harvest this season," says Mr. Lourance. "And I find this little advertisement one of the best means in securing a market for my honey."

The newspaper offers the man with honey to sell a medium by which he can multiply his possible customers from a few hundred into many thousands. Too long have we neglected to use this powerful means in helping to secure a market for our products.

Beeville, Texas.

MAURICE FLOYD.

Why Robbers should Not be Trapped

In GLEANINGS for October 15, last year, I noticed an article bearing the title "Trapping Robbers Not Recommended;" and the answer given by Chas. H. Cargo as follows: "Because it puts the bees in an inferior hive while killing out another and stronger hive."

If it is one of his own colonies that is doing the robbing, then he does not lose much by letting them rob; but if it is some other beekeeper's bees that are doing the robbing, then he loses all but a little comb that may remain in the hive after the robbing. Robbing bothers but little the beekeeper who is on his job.

I would not recommend trapping robbers, because it may lead to the trapping of not only robbers but bees that are in search of food for the purpose of building up new colonies at some other beekeeper's expense or loss.

I took an empty hive, put some honey in it, and set the hive outdoors where my neighbor's bees could get at it. By leaving the entrance open for

twenty-four hours or longer, thousands of his bees found the honey and were at work carrying it away. But I soon stopped this by putting three robber-traps (Porter bee-escapes) into the entrance of the hive. In a few hours I had a hive full of trapped bees. Now, all that I had to do was to introduce a queen, then I would have a new colony at my neighbor's expense; but, no—I let them go. It was an experiment that I was trying, and I found that it worked. But there may be people who would trap bees for the purpose mentioned above if they only knew how. So it would not be wise to recommend trapping robbers.

Meadville, Pa.

A. B. MCGUIRE.

Fall Honey-plants

Oakland County, Michigan, should have been named Lake County, as there are 283 named lakes and 100 that are not named. Around these lakes are acres and acres of wild flowers, such as goldenrod, wild asters, boneset, and a plant that resembles boneset very much, and from which the bees gather large quantities of honey of a light-amber color. There is a plant that has a small white flower, and blooms after the frost kills the others. I have seen bees on this plant up to the first of November, and have counted seven bees on a small twig. There are hundreds of flowers on a single plant. Then we have a plant that grows 5 to 7 feet high that has a blue flower on which the bees work in large quantities.

There are 50 different varieties of goldenrod alone, besides different varieties of asters, boneset, spearweed, buckwheat, and several other kinds of fall flowers that grow around these lakes in great abundance. The goldenrod is just coming into bloom now; and if the frost holds off, and we have warm weather during the next two weeks, thousands of acres can be seen.

I have taken 30 lbs. per colony of extracted honey from these fall honey-plants, after leaving 25 to 30 lbs. to winter on. The honey is very thick. If left on the hives until it is all capped over, it is almost impossible to extract it. In the northern part of the state there are thousands of acres of waste land—yes, hundreds of thousands of acres—that was timbered over and that have gone back to the state, as the owners would not pay the taxes on it. The waste land has grown up to wild red raspberries and other wild flowers.

The lamented W. Z. Hutchinson took 15 colonies up to this waste land and increased them to 150, and wintered the 150, then got a large crop of honey, and sold it at 10 cents per pound.

Rochester, Mich., Aug. 28. J. M. KINZIE.

Robbing

Occurred in late September, when the days, as I remember, were shading, growing cooler, with the frost not far away. I enrolled my hives in number fore I left them to their slumber, and prepared them for the coming of their resurrection day.

Heard a wicked little bee with her hum exultant-like had been tippling in the barroom of an undefended hive. Somehow so it chanced as into hives I glanced, I was tackled, worsted, routed, scarcely saved myself alive.

Garbed with yards and yards of netting, veil and smoker not forgetting, forth I beat it to the riot like a Yaqui to the fight. First the entrance neatly covered where the robbing I discovered; left them shrouded with the netting till the coming of the night.

When the evening lamps were lit I could feel that all was fit. My forty hives I'd cellared, and was left in peace to sit.

Fennville, Mich.

EMILY JACKSON.

A. I. Root

OUR HOMES

Editor

Thy kingdom come; thy will be done in earth as it is done in heaven.—MATTHEW 6:10.

There shall in no wise enter into it anything that defileth, neither whatsoever worketh abomination, or maketh a lie.—REV. 21:27.

God's kingdom is coming. You may remember that I have used this phrase frequently of late; and day by day I see new evidences that God's kingdom is coming, here on earth, in this teeming world of ours. It is coming to the state of Ohio; and the time of its coming depends on the people, on humanity. It depends on *you* and *me*.

I have just returned from a visit to the Ohio State Fair. I think it must be ten years or more since I looked over the Ohio State Fair; and I was astonished and happily surprised to see the movement that is going on toward God's kingdom.* Before I tell you what I saw let me explain a little.

The liquor party is becoming alarmed. A year ago they started what they called "home rule" here in Ohio, to hold back prohibition. Thousands of people were deceived and deluded about the so-called home rule. Well, it worked so well they have just now, before the coming contest, started what they call "The Ohio Temperance Union." That sounds good, does it not, friends? Well, their first move was to go down to Greene County and put up a tent or a booth on the county fairgrounds to distribute their "Ohio Temperance Union literature." The managers of the fair, however, when they caught sight of that lot of temperance(?) literature, called a halt; and their tent, bag, and baggage were very soon ruled off the grounds. They made a big fuss, called the managers fanatics and various other names; but that did not help their cause. Well, the papers tell us they made a venture at another county fair and with the same result; and then this Ohio Temperance Union had the audacity to ap-

* When I approached the gate to the fairground a great number of men and boys pushed out to me various leaflets, advertisements, etc. At first I commenced to shake my head; but finally I decided to see what they had for sale, and crammed a great lot of them in my pockets. When I got time I noticed they were advertisements of medicine to cure rheumatism, tuberculosis, cancer, headache, etc. They "stood outside the gate" because the management did not allow anything of that kind on the ground. As soon as I got inside I saw men with baskets of waste paper going around with a sharp stick and spearing up paper bags and trash of all sorts as fast as the busy crowd dropped them. I commenced to pare a nice apple; but almost as soon as the peeling reached the ground a couple of alert boys with baskets caught up the peeling. It was so all over the fairground. No trash or untidiness was permitted to accumulate. These are trifling matters; but even "straws," you know, "show which way the wind blows."

ply for space at the Ohio State Fair; but when they produced some of their literature the managers of the fair promptly declared that no such temperance literature could be placed on the grounds of the Ohio State Fair. The liquor men put up a big remonstrance, of course; but the managers were "hard-hearted."

Well, when I approached the gate at the State Fair on the last day of August, the most conspicuous object was a good-sized building outside of the fairgrounds, just as near the entrance as they could get, decorated with the Ohio Temperance Union literature. While there were thousands upon thousands of people rushing through the gate, I did not see anybody gathering around this great display of print. On the morning of Sept. 1, when I came up to the honey exhibit in the Exposition Station Building one of the young beekeepers placed in my hand a clipping from a Columbus morning paper. I am sorry he did not leave any evidence as to the name of the periodical. Here is the clipping:

REMOVAL OF 7 MEMBERS OF AGRICULTURAL BOARD IS ASKED; OHIO TEMPERANCE UNION CHARGES THEM WITH HAVING FAVORED PROHIBITIONISTS.

Removal, not of the entire ten members of the State Board of Agriculture, but of seven members, President John Begg, C. A. Branson, N. L. Burnell, J. W. Kirgan, D. D. Snider, T. B. West, and K. D. Williamson, was demanded yesterday of Governor Willis by Harry R. Probasco and W. L. Casady, managers of the Ohio Temperance Union, because the union had been denied a 12-foot space on the fairgrounds on which to set up a tent and distribute arguments against prohibition.

The managers ask removal if the governor does not force the board to recede from its action or does not obtain the resignations of the seven. Though it is not specifically stated in the demand, it is understood the seven voted against the concession Monday when nine members were present.

The managers charge discrimination in favor of the Woman's Christian Temperance Union, which has a booth on the grounds and is distributing prohibition arguments.

Did you ever see such a display of what is generally called cheek? The idea! "Discrimination" indeed, in favor of the W. C. T. U.!*

Some years ago when traveling on a railway where I was pretty well acquainted, I noticed a change of conductors. When I

* To-day, Sept. 5, we find the following in the Cleveland Plain Dealer:

AVIATORS TO AID WETS.

The Ohio Temperance Union, which is fighting the prohibitory amendment, being denied space inside the fairgrounds to distribute literature, seeks to employ aviators to fly about the grounds and drop quantities of literature on the heads of the crowd.

The Anti-saloon League will ask the courts to stop that procedure.

inquired what had become of my former friend the reply was, "He was dropped because he was color-blind."

"Color-blind?" said I. "What do you mean by *color-blind*?"

I could readily understand why an engineer should be dismissed on account of being color-blind; but I could not see how it applied to a conductor.

"Why, his color-blindness was like this. He got so he could not discover any difference between the color of his own money and the money belonging to the company."

Now, while we shall have to admit, perhaps, that a good many of our Ohio people were color-blind a year ago in regard to "home rule," for instance, I doubt if there were many in the great throngs on the grounds of the Ohio State Fair this year who failed to see a difference in the color of the literature passed out by the Ohio Temperance Union and the literature used freely in the building and all over the fairground by the W. C. T. U. By the way, let me remark that in times past the W. C. T. U. has been laughed at and ridiculed; but just now, thank the Lord, they are "coming into their own" here in Ohio. Their presence and their good work were manifest all over the fairground, inside the buildings and out, in the way of resting-places for women, an immense dining-hall entirely under the management of the W. C. T. U., etc.; and very likely the good women of Ohio inaugurated the scheme of gathering up the rubbish as mentioned in the fore part of this article.

I am not going to tell you all I saw nor even a part of what I saw in that great accumulation of the best things that Ohio can produce. I am going to confine my remarks chiefly, at least just now, to what is called the "Education Building" of the State of Ohio. Near the entrance to this great edifice we see "Safety First" given a prominent place. In fact, "Safety First" seemed to be the most prominent feature in the education of our boys and girls as well as men and women. Now, what do you suppose the state of Ohio recognizes as of the greatest importance in this matter of safety first to conserve human life and limb? In my Home talk in our last issue I gave a list of the things that the Pennsylvania Railroad Co. is doing and has been doing for years past to make *safety first* the great slogan of their thousands of miles of railway. Well, I thanked God again and again that the *factories* of Ohio are recognizing that safety first demands the entire abolition and prohibition of intoxicants. One of the first things that caught my eye

was a very pretty motto in large plain letters: "If you would not marry a girl who drinks, why should you expect a girl to marry a man who drinks?"

May be, friends, you do not see what a tremendous bearing safety first cuts in the above. Look at that picture in the last GLEANINGS of the girl amid the flowers, and read what is written under it. Well, there is one whole department devoted to infant mortality. Another motto over this reads, "Nine babies die from overfeeding where one dies from lack of nourishment." Over another department we read, "Eighty thousand accidents in Ohio during 1914 cost the employers of factories over three millions of dollars. Why not help to reduce this appalling record at least a half?" On another very pretty card we read: "Workmen who are not careful from 5 P. M. to 7 P. M. will not likely be careful from 7 A. M. to 5 P. M." The inference is that the man who thinks he can visit saloons after working hours, and that it is nobody's business, is just now finding out he is mistaken.

The United States Steel Corporation had a magnificent display. There was no end of photographs explaining how accidents happen that proved injurious or fatal. As an illustration:

Where workmen are working steel with a cold chisel, chips of steel often get into the eye. This has happened frequently in our own machine-shop. Well, the management now furnishes stout glass goggles with placards requesting employees to use them whenever the eyes are in danger, and the broken spectacles are placed in plain sight, showing where the chipping fractured the glass instead of putting out an eye. I remarked to the bright man in charge that our institution was employing workmen, and asked him how they managed to keep intoxicants away from their help. His reply was, as nearly as I can recollect, as follows:

"Mr. Root, we are just now getting material to put up a stout barbed-wire fence clear around our premises. Workmen are to be admitted through a gate; and after they are all in, the gate is locked. A man cannot get out without giving a reason for it until the gate is opened when the whistle blows. If saloons are planted in the immediate vicinity of our premises we will establish a watch; and when any one of our workmen goes into one of these saloons he is promptly dismissed."

You see a saloon would be unlikely to locate in such a place if they knew of the regulations beforehand; and if they did have the audacity to locate thus the mana-

ger would probably soon go away on account of a lack of patronage.

I hold in my hand a sort of magazine of toward 100 pages. It is the Safety Bulletin of the Ohio Safety Commission. In one place we read:

Ohio's opportunity to conserve human life and limb.

That prevention of accidents is of even greater importance than equitable compensation to injured importers.

The value of men, women, and children in our country is worth in money more than twice as much as are our industries, railroads, land, buildings, and improvements. No monetary value can be placed on the health and happiness of humanity.

The whole periodical is devoted to safety first. On page 74 we read:

"If past experiences enable us to judge, more than ten thousand workers of the United States who are alive and well to-day will be *dead one year from date*, just because they failed to heed the most simple and obvious precautions of 'Safety First.'"

For copies of this magazine address Victor T. Noonan, Director of Safety, Industrial Commission of Ohio, Columbus, O.

Now, all of these things admonish me that God's kingdom is coming. Not only the state of Ohio, but the whole wide world, seems to be waking up and recognizing as it has never done before what intemperance has been doing for ages past in the way of preventing the forward movement of the gospel of Safety First. Do you want to know what will be the state of affairs in that happy time when God's kingdom shall come in earth as it is in heaven? Well, I have at present only a dim vision of what this earth will be; but I get a glimpse occasionally of good men and women who really do love their neighbors as themselves—who really do love the boys and girls of coming generations as they love their own children and grandchildren, who have been able to follow the gospel of Christ Jesus and its injunctions to love *even our enemies*—the enemies they are compelled to fight—the enemies of all righteousness; and we are just now working to make Ohio dry without any fight or ill will toward the brewers, the saloon-keepers, the liquor-dealers, and all who are engaged in that unholy traffic. We love them in spite of their greedy, selfish, unhappy nature, and we long to see them engaged in some pursuit where they will be better men and better women. We long to see them engage in some pursuit where they can honestly ask God's blessing on the goods they send out—in some pursuit where they will not feel that they themselves, their wives and their children, are disgraced before all good men and women, when the nature of their occupation becomes known.

Now in regard to the condition of affairs

when God's kingdom shall have come in earth as it is in heaven, I cannot tell very much about it except from the many glimpses that we get through God's holy word.

As I think it over after my brief visit I have been wondering if the time is not near at hand when not only our state fairground but the fairground of every fair in Ohio shall come up to the standard as we have it in Holy Writ.

"There shall in no wise enter into it anything that defileth, neither whatsoever worketh abomination, or maketh a lie."

I confess it may be a pretty big jolt for at least some of our county fairs, and even state fairs, but evidence seems to be growing all about us that the time is approaching when God's kingdom shall come to even this earth of ours.

APPLE JUICE "WHILE YOU WAIT."

The principal beverage on the State Fair-ground was so-called apple juice squeezed out of the apples while we stood by. For instance, I went up to a refreshment stand and picked up a nice apple and handed out some change. The proprietor instantly said:

"No, no! those apples are not for sale."

"Not for sale?" said I in surprise.

"No, we want them for cider; and with our big trade it looks as if we would not have enough any way."

"Well, if you do not sell the apples, will you sell me some of the juice out of them?"

"Oh, yes! we will sell you the juice—that is our business."

It was just about my supper time, and my supper, as you may recall, has been lately mostly of apples; and I was wondering if the juice of apples would not do just about as well as the apple itself. Of course he put several more apples with it, and gave me so big a glass of cider that I was afraid I should not be able to drink it all, especially as it was ice-cold. So I sipped a little slowly, for it was a warm day, and I am afraid of ice-cold drinks at such a time. I am glad to say that the apple juice seemed to answer just as well as apples. Had I been at home I would have had a little bit of cheese with the cider; but I got along very well with just the apple juice. Now, there is certainly no objection to giving a man, woman, or child all the apple juice (perhaps I should say at proper hours) that they care for. But the use of cider has been discouraged of recent years, because there is so much danger of its being kept until it is fermented, or slightly so; and *hard* cider in times past has made about as much trouble as beer—may be more.

There were many stands for the cider while you waited, all over the grounds. They had a fashion of pouring it quite a distance so as to make a foam on the top of the glass so as to look like a glass of beer or a glass of fermented cider. But I think the authorities looked after things so that no cider was on sale anywhere that was the least bit worked. It was just plain apple juice, and made a very nice delicious drink, made of apples neither too sweet nor too sour. All the stands used a small cider-mill worked by hand; and it would be very nice to have such a machine—a very little one—in the home if it were not for the danger of keeping the cider until it contains alcohol, and if public sentiment were worked up to such a point that our fathers and mothers could look out and prevent a little cider-mill proving to be a thing of danger in the home.

JOHN L. SULLIVAN, THE CHAMPION PRIZE-FIGHTER, TALKING ON TEMPERANCE.

Strange things are happening nowadays, and, thank the Lord, some of the happenings are "happy surprises." In a recent *Rural New-Yorker* the Hope Farm Man tells of attending a temperance lecture at Ocean Grove, N. J., where Sullivan was the speaker. I wish our readers could all read that Hope Farm notes. We have room for only two brief extracts.

Here was a man who in the palmy days of his great power spent at least half a million dollars for liquor in the meanest and most debasing way, and then finally braced up and "cut it out," as he expressed it. Surely, we have here an expert whose opinion ought to be worth something. He said the only safe way to fight "booze" is to jump out of the ring and run for your life. He said, and he ought to know, that the man who says, "I can take a drink when I want to and quit when I want to" is a fool and a liar! I was impressed with what Mr. Sullivan said about the growth of prohibition sentiment everywhere. I had to rub my eyes as I recalled that railroad scene of 30 years ago, and now saw this white-haired, earnest man waving that great hand with something of prophecy as he said that within a few years the sentiment against the useless folly of "booze" would be so great that decent men will not stand for it.

From a recent number of the Cleveland *Plain Dealer* we clip the following:

MORE ABOUT KANSAS.

In a recent number of the *Plain Dealer* Paul S. Conway, of Kansas City, is reported as having stated in an address to the "wets" of Cleveland that last year over 90,000 gallons of whisky was drunk in Topeka, Kan., that the saloons of that city were wide open, and that more liquor was sold in prohibition towns and cities than in cities where open saloons exist.

I have spent a number of months each year for several years in Topeka, and know, as every person

who is acquainted with the city knows, that there are no open saloons in Topeka; that "the city is as tight as a drum," to use the language of the present mayor of Topeka, and that the prohibition law is as well enforced there as is the law against burglary or larceny.

In further reply to Mr. Conway permit me to quote from the speech of Arthur Capper, the governor of Kansas, made on Kansas day at the Panama-Pacific exposition in San Francisco. Mr. Capper is the owner of the Topeka *Daily Capital* and other publications having a statewide circulation, and has spent his entire life of fifty years in that state. I quote from his speech as follows: "Kansas for thirty-five years has not had a legalized saloon or brewery, and now has eighty-eight city and county jails that are empty, forty-seven poorfarms and almshouses that are unoccupied; twenty-eight counties in which the criminal courts have not had a criminal prosecution in more than a year; there are more than half a million boys and girls in the state who never saw an open saloon; the state has the lowest death rate in the United States, only seven to the thousand, a percentage constantly decreasing, although we have more motor cars in proportion to the population than any other state. Kansas has the largest per capita of wealth, almost \$2500 for each man, woman, and child within its borders, while we have \$205,000,000 of surplus wealth piled in our banks and savings institutions. Kansas was the first state to declare unanimously through its legislature, its state officials, and its entire delegation in congress for nation-wide prohibition."

No attempt has been made, and no successful attempt can be made to refute these and other statistics of like import given by the governor before a large audience, including several hundred prominent jay-hawkers who were present on that occasion.

Ashtabula, O.

NORRIS L. GAGE.

THE DOPE HABIT.

We clip the following from the Official Bulletin of the Ohio Agricultural Commission for July:

THE DRUG HABIT.

Ohio, as well as other states, has an army of human beings who are more or less slaves to the "drug habit." The Division of Dairy and Food Inspection, under Mr. Strode, has charge of the enforcement of stringent laws recently enacted. The "drug" is now hard to get. Yet some folks who want to be regarded as respectable and honest will, for the greed of a dollar, aid and abet these drug victims to get the drug in defiance of law.

This curse has cast a shadow across Ohio and the nation. The cities, especially, have a large percentage of the cases and victims. In many cities the prisons are filled with these unfortunates. The state and nation ought to have started twenty years ago to wipe out this vice.

Mothers will appeal to officers of the Agricultural Commission for permission to purchase "drugs" when they find they cannot get them as they formerly did. They threaten to destroy themselves. They say they want to live for their children, but cannot live unless they can have their "drug."

One half of the people do not know how the other half lives.

The above is all very good; but does it include cigarettes as well as morphine, cocaine, etc.? May God help us in our efforts to keep temptation far away from the path our children are treading. "Lead us not into temptation," etc.

HIGH-PRESSURE GARDENING

TRAMPS; WHAT SHALL WE DO WITH THEM?
ALSO SOMETHING ABOUT SOWING
SWEET CLOVER BETWEEN THE
HILLS OF MATURING CORN.

We clip the following from the Cleveland *Plain Dealer*:

One who gives a tramp a "hand-out" at the back door is doing himself, the tramp, and the community an injustice. A city which, rightly or wrongly, gains the reputation of being composed largely of these back door philanthropists suffers in the long run, for hoboes are persistent advertisers. They spread far and wide the glory of any city which shows special consideration of their kind.

I think there must be considerable truth in the above, because I have noticed tramps passing by our place and stopping at some of the humbler homes on the outskirts of our town. Very likely it is understood among the craft that our establishment offers *work*, but not cold victuals. But I am glad to say that I have had one experience that I am glad to mention. Monday morning early a fellow just twenty years old came to the lumber-yard and asked for work. He said he had not had a bite all day Sunday, and had had no breakfast that day. As it usually happens at this season of the year, our business is slackening up, and the foreman of the yard told him he did not know how we could use any more help just then. But he gave him a bite out of his own dinner-pail; and although I remembered former experiences I gave him a hoe and set him at work in the cornfield. Well, it was one of my "happy surprises" to see him get down and do about as much work in an hour as the usual run of help will do in two hours. The field had been cultivated, but ragweeds had started up in and around the hills. Of course, there were not weeds in every hill; but he just flew, as it seemed, from one weedy hill to the next one—got down on his hands and knees, got out every weed, smoothed the dirt back with a dextrous flourish of his fingers, and then really jumped and ran to the next weedy hill. When I saw how he was "panning out" I told Mrs. Root about it and she hurried up a pretty good lunch of nourishing food, remarking at the same time that he certainly could not keep up at that "gait" for the whole day. But, to my surprise and astonishment, he did; and just before the whistle blew (with the help of another good man) the cornfield was finished. One reason why I was anxious about it was that the corn had been cultivated for the last time, and we were in a hurry to get in some sweet-clover seed. This was put in

with a drill (between the rows) with a weeder tool to work the seed into the soil after the seed had been dropped on the surface. Although our business is slackening up at this season of the year (July 20), I told Mrs. Root I was going to see that that boy had a job. By the way, he seems to be a foreigner, and speaks our language very imperfectly, and I have before noticed that some of these foreigners, before they have learned the Yankee trick of "soldiering," are a refreshing example of what a man can do in the way of getting along with his work if he is really anxious to *have a job*.

SOWING SWEET CLOVER BETWEEN ROWS OF CORN AT THE LAST CULTIVATION.

It is now August 20, just one month since the sweet-clover seed was sown, and it is up and growing as only sweet clover can grow. We put on about 15 lbs. per acre, and I should judge there was twice the quantity needed, and perhaps more than that. As the seed was put through the new scarifying machine, probably almost every seed germinated. The plants are now six inches tall. The abundant rains seem to have just suited the sweet clover. The corn, too, has made a most astonishing growth. Some of the great ears are lopping over already, and it looks very much just now as if sweet clover does not hurt the cornfield as do ragweeds and other foul weeds. Before the sweet clover gets up so as to take the fertility and moisture from the corn, the corn will probably be beyond injury from the clover. Of course, the abundant rains probably have had much to do with the tremendous growth of both corn and clover.

Still later.—It is now Sept. 10. The clover is a foot high, and much of the corn would do to cut. By selecting ears of early maturity for several years I have a strain of early maturity; and I believe we have about the best *whole field* of corn I saw on my trip to Columbus and back.

SWEET CLOVER FOR FEEDING STOCK; A COMPARISON WITH CORN FODDER WHEN FED TO MILCH COWS.

I notice quite a number of our agricultural periodicals are rather slow to give sweet clover credit, for some of them go so far as to say that farm stock will not eat it except when they can get nothing else, etc. Below is something which we clip from the *Beekeepers' Review* for Septem-

ber; and inasmuch as quite a number of similar reports are now coming to the front it seems fit that some of these periodicals should keep a little better posted and up to date.

I have had some personal experience with sweet clover this fall, and I now know that stock will eat and relish it. One of my neighbors told me that his horse would now leave a mess of oats any time for sweet clover, although at first refusing it. This neighbor is a feed-dealer, so naturally his horse would be well fed. Our Jersey cow at first refused it, but gradually began to eat it; and when I was about out of it I found she preferred it to corn fodder; and I also discovered that when fed corn fodder after being on sweet-clover hay she dropped about three quarts per day off her milk. Just think what this means—6 pounds per day for 300 days, the average milking period—equals 1800 pounds of milk at 6 cents per quart, \$108 more per year per cow; or at \$1.75 per 100, which is what farmers get in shipping to the city, it would amount to \$63.00; and this astonishing amount is just the difference in favor of sweet-clover hay over corn fodder and other feeds, grains being the same, and sweet clover hay being the equal, ton for ton, of wheat bran in feeding value according to U. S. Department of Agriculture analysis; and while growing sweet clover we are greatly enriching our land.

Milford, Mich.

EARL F. TOWNSEND.

SQUASH-BUGS, AND BLACK-KNOT ON CHERRY AND PLUM TREES.

Mr. Root.—I see that you have quite a lot to say about squash-bugs. I have something that will drive all the squash-bugs out of Ohio in one season. Take pine sawdust when your plants just get out of the ground, and put it $1\frac{1}{2}$ inches deep under the plants; then when they are six or eight inches high put on some more sawdust. This is for squash, cucumbers, pumpkins, and watermelons. I have another recipe for black-knot on tame cherry and plum trees. Take the soot from your chimneys and put one quart around each tree at the ground. That destroys the germs that causes black-knot, and it will never fail.

I am an orchardist, and the two recipes are free, so please pass them along.
La Grange, Me., Nov. 7.

E. A. DAY.

I presume that in the above the odor of the pine sawdust is what repels the bugs. I find they are in the habit of boring down around the stalk and roots of the vines. In fact, they crawl down in the dirt, and hide. Very likely this pine sawdust, with its strong odor of turpentine, would be sufficient to repel them. If I remember right, some other writer has recommended kerosene worked into the sawdust, being careful, of course, not to get it so strong as to kill the vines.

HAND CULTIVATORS, STRIPED BUGS.

I am nearly 70 years old, but I am a good gardener. I know how to make stuff grow by working the ground often and using shallow cultivation. I have about two-thirds of an acre in my garden, and all tended by hand, with my wheel plow and hoe. I use the Excelsior double wheel, about 14 inches between wheels. I use two plows or two weeder, as I wish. One can do more than double the work with them than with a single wheel, and no harder work. My garden is fine, and full of stuff—one of the finest gardens in all this country. The dasheen is growing finely—nearly 2 feet high. The rainbow corn is nearly 2 feet high, and is showing up finely.

I had a hard fight with the yellow striped cucumber bugs. I had to replant. I finally got the upper hand of them. I had (like you) to do a little Sunday work with them, but under compulsion. I do not think I sinned. If I had let the plants go until Monday they would have been about all killed. Now I have some nice vines. There were more bugs this season than I ever saw before in one season.

We (that means my better half and I) do enjoy your Home department. I am so glad temperance is advancing so fast.

Delta, Ohio.

T. W. CONNELL.

HEALTH NOTES

STILL ANOTHER IMITATION OF ELECTROPOISE.

It is really a shame and disgrace to humanity to think that a senseless toy that has no more virtue than a horseshoe nailed over the door should not only induce thousands to invest their hard earnings, but should be *imitated* again and again to "pick the pockets" of the unwary. Just now we have a circular before us that reads as follows:

ATTENTION! IT TREATS DISEASE WITH OXYGEN.

You may now borrow an oxybon, use it thirty days, and treat your ailment in your own home. This may seem remarkable to you, but, nevertheless, it is a fact. If you have failed to find relief from any other method of treatment, then all we ask is that you give us an opportunity to demonstrate the worth of our invention by trying it for 30 days. If you are suffering with any ailment, don't hesitate. Write us now. It may be the turning-point in your life from sickness to health. It treats disease with

oxygen. No medicine, no belt, no battery, no electricity!

Some of you may wonder how it is that they get money by sending their traps out on trial. The explanation is this; and it applies to a great part of the remedies found in the drugstore. After reading their printed matter, and especially testimonials, many people (and I might also say most people) get the impression that there really must be some wonderful invention or discovery about the thing; and under the influence of the imagination, and nothing else, they hand over their good money. While the original electropoise had only one wire, this thing has two. You drop it into some ice-cold water. Then you clasp a wire to each ankle, and lie down and take a rest. Is it not a little funny that people do not catch on to the idea that lying down and

taking a rest when fatigued and worn out will do a lot of good *without* any electro-poiso?

WHISKY AND BRANDY NOT MEDICINES.

The following, from the *Ohio Messenger* for September, is important:

PHARMACOPEDIA DROPS LIQUOR.

The National Pharmacopoeia Committee, composed of fifty-one of the leading physicians of the country, has cut whisky and brandy from the new edition of the United States Pharmacopoeia.

This means that whisky and brandy have been declared officially to be neither drug nor medicine. The new edition of the pharmacopoeia will be issued about January 1, 1916, and after that time whisky and brandy cannot legally be sold by druggists as medicine.

It will then be necessary for the druggist to meet the local requirements—*i. e.*, take out a saloon license if he wishes to sell “nips” behind the counter.

This decision as given above is far more reaching than I supposed. If it is really true that no druggist can in the future sell intoxicating liquors without taking out a saloon license, we can praise God for another advance in temperance legislation.

“ROBBING SICK PEOPLE;” HOG-CHOLERA CURES.

I hold in my hand a pamphlet of 8 pages sent out by the Agricultural Experiment Station, Iowa State College of Agriculture and Mechanic Arts, Ames, Iowa. This pamphlet gives in detail the results of experiments with six so-called hog-cholera cures. From a summary at the close of this bulletin I extract the following:

All tests above indicate that none of the products entering into the tests protected hogs against attacks of hog cholera except hog-cholera serum prepared according to the general plan worked out and recommended by the Bureau of Animal Industry of the U. S. Department of Agriculture.

I have several times of late seen notices in agricultural papers that the hog-cholera cures, like much of our advertised patent medicines for the human family, were worthless, or worse than worthless, because they prevent the poor suffering farmer from availing himself of the remedies advertised by the U. S. Department of Agriculture. There is a big moral here—do not touch or listen to anybody recommending or selling any cure for domestic animals unless it has the indorsement of the experiment station belonging to your own state or the indorsement of the Department of Agriculture at Washington. I grant that sometimes the venders of these medicines are honest, but they are mistaken. Our several stations have competent men to advise and safely direct in all these troubles that afflict the farmer.

In the experiments detailed in the bulletin mentioned above, all of the pigs died when treated with the six different remedies, and *not one* died when treated by the authorized hog-cholera serum.

SPECIAL NOTICES

BY A. I. ROOT

“THE STORY OF ART SMITH.”

The above is the title of a paper-bound pamphlet of 94 pages. It was sent me by my grandson feeling sure I would be interested in it because of the fact that I was with the Wright brothers when they made their first flight that succeeded in bringing the machine back to the place of starting. The book interested me for two reasons: First, because it was all about experiments with flying-machines; second, because the boy started out when he was only 15 years old—nearly the same age that I was when I started out giving “lectures(?)” on chemistry and electricity. There is still another reason why the book took a mighty hold on me. This boy, Art Smith, it seems to me, had more mishaps and discouragements and failures than I ever heard of falling to a single human being; and yet he is now, at the age of only 21, turning somersault after somersault away up above the clouds, leaving a trail of smoke by day and a trail of fire by night, to show the path that his machine actually made through the sky.

I think that when I first opened the book I was standing up; and in a little while I got off by myself where nobody would interrupt me. As it came dinnertime I felt I could not stop for dinner nor anything else; and I am afraid I was unfeeling enough to get off with the book where Mrs. Root could not ask *why* (for once in the world) I was not ready for dinner. I doubt if I ever before got hold of any book that held my attention as did that one. Here is a brief extract from page 4:

“Of course, there are only a few of us now who feel at home in the air—really at home, knowing the air and its ways, so that we can roll about up among the clouds like a kitten in a basket. Because we are pioneers in the air, with difficulties and dangers to overcome, it is interesting to know how we do it, and what it feels like.

“The story of how I learned to do it is doubly interesting to any one who is trying to do anything difficult in the world, because I think no one can have a harder time realizing his ambition than I had in learning to fly.”

In the middle of the book we read of the way his machine turned over sideways and was going crashing into the ground with the heavy engine, etc., and when within twenty feet of the earth it suddenly righted and skimmed off like a bird, unharmed. When his good mother (*a praying* mother, by the way) saw that death to her venturesome son seemed *inevitable*, she fell on her knees and said, “O God, save my boy!” and, while she was praying, the machine righted itself in a second of time, and her boy was saved. Below is the finishing paragraph of the book:

“The world is carried forward by man's great dreams. The greatest dream of all is the conquest of the air. What it will mean to human life we know no more than Watt knew when he watched the lid of the kettle and dreamed of the first steam-engine. Aerial navigation will mean, as the steam-engine did, more than we can imagine now.

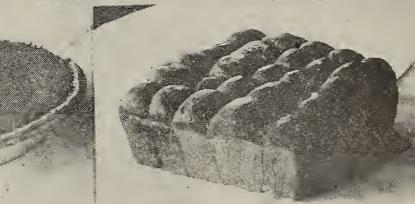
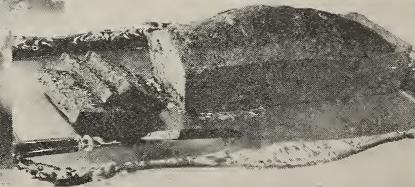
“Big men are working on it. Big men will some day conquer all the difficulties which we are fighting. We are only pioneers, but we are pioneers with a great idea. Some time in future centuries the whole world will be revolutionized by that idea. Then it will know the value of the hope and the thrill we feel as our aeroplanes rise from the earth, pass through the clouds, and fly high in the clear upper air.”

The price is 25 cents postpaid; but every one who sends us \$1.00 for GLEANINGS may have the book for 15 cents. I am well aware that some of my good friends may criticise me for encouraging what has cost so many lives already; but my reply is that the book will help to *save* life; and it will also encourage patience and perseverance among the young inventors now growing up more than any other book that I have ever read or heard of. The book is not fiction, because every event mentioned occurred out in the open air in the plain sight of hundreds and thousands gathered to see Art Smith fly—the boy who was born and brought up in Ft. Wayne, Ind.

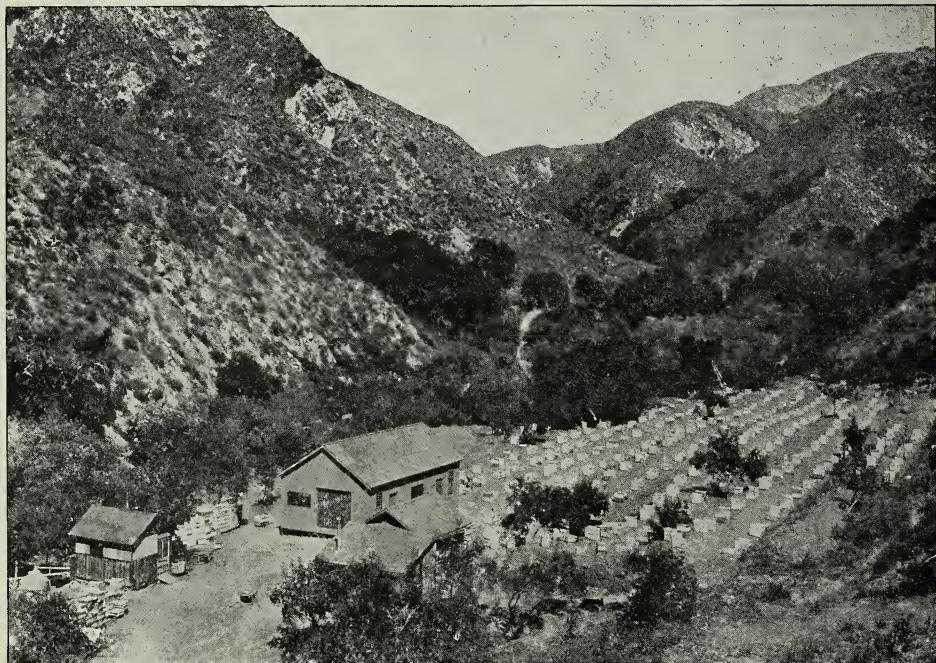
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The eyes of the nation are turned toward the empire of the western seaboard with its two expositions and its unparalleled opportunities for travel.

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Californians and producers in other Pacific Coast states who are in the market for supplies are asked to write for catalogs and prices.

Full line of Root goods are carried at both offices. Do not forget those power extractors. Order your cases and cans early.

While enjoying the splendors of the Panama-California exposition at San Diego this year, remember to inspect The A. I. Root Company's exhibit in the Varied Industries Building. Our concession stands at the right of the east entrance where you can't miss it. It's interesting and comprehensive. See demonstrations of the new friction-drive power extractors. We have another exhibit in the Palace of Food Products at the Panama-Pacific exposition, San Francisco.

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